POLICY IMPLICATIONS OF THE FINANCIAL CRISIS AND RECESSION: CANADIAN PERFORMANCE IN COMPARISON

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Abstract

The Global Financial and Economic Crisis involve complex interaction among diverse causal factors. This article seeks to ascertain the policy implications of countries' exposure and responses to these twin crises. It does so by comparing five economies – The United States, United Kingdom, Iceland, Greece, and Canada - according to their economic performance through the crises. This comparison aims to discern why Canada's performance surpassed that of the other four cases. The paper compares countries' financial regulations and initial exposure to the financial crisis, as well as monetary and fiscal policy responses to mitigate the crisis and recession. It finds that monetary and fiscal stimulus were useful in mitigating economic contraction, in line with Keynesian economic theory. However, initial financial sector soundness, based on effective regulatory and corporate governance, was the key determinant of exposure to – and ultimate economic impact of - the financial crisis.

Keywords

Political economy, financial crisis, economic crisis, recession, Canada, United States, US, United Kingdom, UK, Greece, Iceland, Keynes, financial governance, financial regulation.

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Chapter 1 Introduction

1.1 Research Question and Hypothesis

An accurate understanding of the global financial crisis and recession of 2007-2009, which has resulted in ongoing economic and political crises in North America and Europe, must necessarily consider the diverse experiences of different economies.[1] Canada initially suffered alongside other developed economies, but experienced a less severe recession as well as a relatively rapid recovery. By 2010 Canadian commodity prices had recovered about half of the losses experienced through 2008-2009, and average prices on the Toronto stock exchange had nearly returned to their 2007 peak.[2] After contracting 2.6% in 2009, Canadian real GDP grew 3.3% in 2010, followed by an increase of 2.2% in 2011.[3] By the end of 2011, unemployment in Canada had returned to below where it was in January 2009.[4] While Canada's initial unemployment rate was higher than in other countries at the onset of recession, it has experienced a more rapid correction than elsewhere. While Canadian and American unemployment rates stood at 6.1% and 5.8% respectively in 2008, the Canadian unemployment rate peaked at 8.3% in 2009 compared to 9.6% in the US. In terms of recovery, Canada's unemployment rate had dropped to 7.5% by 2011, while unemployment in the US stood steady at 9%.[5] Relatively little has been written specifically regarding Canada's relative performance through the financial crisis and recession.[6] This research paper aims to address this gap in

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[1] For an exhaustive survey of the academic literature on the financial crisis in general, consult Robert W. Kolb, ed. "Lessons from the Financial Crisis: Causes, Consequences, and Our Economic Future." Hoboken, NJ: John Wiley & sons, 2010.

[2] Statistics Canada, "Chapter 9: Economic Accounts," *Canada Yearbook 2010* (2010): 118. Accessed April 25, 2012. http://www.statcan.gc.ca/pub/11-402-x/2011000/pdf/economic-economique-eng.pdf.

[3] Statistics Canada, "Chapter 9: Economic Accounts," 118; Statistics Canada, "Economic Indicators, by Province and Territory," last modified April 25, 2012, accessed April 25, 2012. http://www.statcan.gc.ca/tables-tableaux/sum-som/l01/cst01/indi02a-eng.htm.

[4] Statistics Canada, "Study: Inside the Labour Market Downturn," last modified July 5, 2011, accessed April 25, 2012. http://www.statcan.gc.ca/daily-quotidien/110223/dq110223b-eng.htm.

[5] Organization for Economic Cooperation and Development, "Statistical Extracts," Accessed April 26, 2012. http://stats.oecd.org.

the academic literature. The question is thus posed: Why did Canada fare better through the recent financial crisis and recession than other economies?

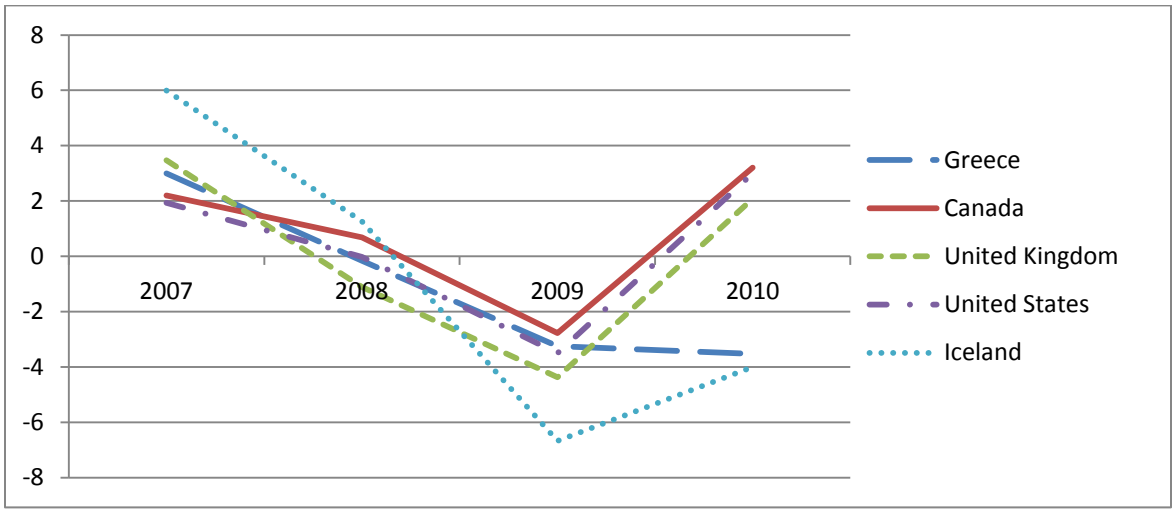

Figure 1 GDP Growth Rates by Country

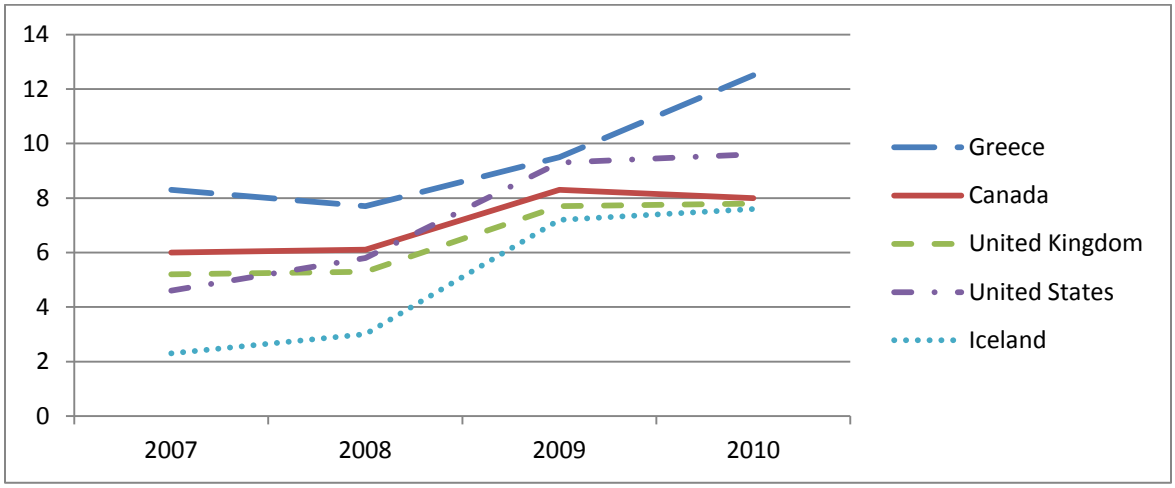

Figure 2 Unemployment Rates by Country

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[6] For consideration of Canada in post-crisis financial globalization see: Patrick Leblond, "Canada, the European Union, and Transatlantic Financial Governance," *International Journal* vol. 66 no. 2 (2005): 57-72. For a broader cross-country comparison of countries' experience of the economic crisis see: Stephen G. Cecchetti, Michael King and James Yetman, "Weathering the Financial Crisis: Good Policy or Good Luck?" *BIS Working Paper Series* no. 351 (2011). Accessed March 20, 2012. http://www.frbatlanta.org/documents/news/conferences/11fmc_cecchetti.pdf.

1.2 Methodology

This paper will compare the experiences of several economies through the financial crisis and recession. These experiences will be evaluated according to macroeconomic benchmarks such as GDP growth and unemployment. Each country case study will also assess: the country's financial makeup and regulatory regime, which determined initial exposure to transmission of the global financial crisis; the country's exposure to the ensuing global recession through trade networks; the country's monetary policy response through the manipulation of interest rates and quantitative easing; the country's fiscal policy response through fiscal stimulus and bail-outs of systemically important financial institutions. Countries' fiscal positions going into the crisis will also be considered, as this affects the range of fiscal and monetary response options available to governments.

This paper employs a comparative research method in order to assess the variables outlined in this section – regulatory causes of the crisis, financial interventions, and monetary and fiscal policy responses - as they interacted with different political-economic systems through the course of the financial crisis and recession. Qualitative and quantitative methods are employed: approaches to financial regulation and corporate governance constitute examples of the former; economic benchmarks such as unemployment and GDP growth are examples of the latter. Needless to say, any comparative study of global macroeconomic phenomena is subject to considerable extraneous variance.[7] This research design has been selected due to the historical nature of the topic. It is not possible to induce and evaluate macroeconomic crises in a laboratory, nor would it be ethical to do so. This paper thus undertakes Hopkin's primary use of comparison in political science, that "of developing, testing, and refining theories about causal relationships…"[8] By comparing Canada to several other economies which varyingly conform to our selected policy variables, it should be possible to assess the influence of these variables on Canada's performance through the crisis. The correlation

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[7] Jonathan Hopkin, "The Comparative Method," in *Theory and Methods in Political Science*, third ed. by David Marsh and Gerry Stoker (Hampshire, UK: Palgrave MacMillan, 2010), 292.
[8] Hopkin, "The Comparative Method," 285.

of performance outcomes to variables will allow an evaluation of the primary hypothesis of this paper.

The preliminary hypothesis is that, while still affected by a recession due to transmission through trade channels[9], Canada did not suffer from the primary blow of a financial crisis as did the United States and Europe. This was due largely to the more robust and comprehensive standards of financial governance present in Canada, as well as a strong fiscal position going into the crisis. Moreover, the implicit guarantee provided by the Canadian government to financial institutions helped maintain investor confidence in Canadian banks, mitigating the uncertainty-fueled instability which so weakened financial firms and national bond markets elsewhere.

While Canada's regulatory framework has to do with history and culture[10], the role of government intervention in moderating economic uncertainty is a staple of Keynesian theory and will be given prescriptive consideration in the comparison with other economies. It is important to note that the financial crisis and recession were separate, though highly interconnected, events. Policy responses to the financial crisis included the temporary offering of discount loans to, and in some cases recapitalization of, national financial institutions. The economic crisis - the recession - was addressed through fiscal and (unprecedented) monetary expansion.[11]

The case studies selected and their reasons for inclusion are: Canada, as the economy under primary consideration; the United States, as the world's largest economy and the epicentre of the financial crisis; Greece, as an extreme example of the effect of eurozone membership and subsequent lack of monetary policy autonomy in addressing the crisis; Iceland, as an example of a non-eurozone country with extremely high exposure to the financial crisis and limited response capacity due to its small size; the United Kingdom,

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[9] Rudolfs Bems, Robert C. Johnson, and Kei-Mu Yi, "Demand Spillovers and the Collapse of Trade in the Global Recession," *IMF Economic Review* vol. 58 no. 2 (2010): 321.
[10] Donald Brean, Lawrence Kryzanowski, and Gordon Roberts, "Canada and the United States: Different roots, different routes to financial sector regulation," *Business History* vol. 53 no. 2 (2011): 260.
[11] John E. Marthinsen, "Four Paradoxes of the 2008-2009 Economic and Financial Crisis," in *Lessons from the Financial Crisis: Causes, Consequences, and Our Economic Future*, ed. Robert W. Kolb (Hoboken NJ: John Wiley & Sons, 2010), 60.

as an example of a highly-developed non-eurozone country with a greater range of policy response options. Comparing these country case studies will demonstrate the relative importance of the policies mentioned, highlighting the importance of prudent fiscal management and financial regulation in times of economic growth, thus allowing governments the capacity to mitigate the effects of unexpected economic shocks. This in turn conforms to an essentially Keynesian prescription for macroeconomic policy approaches. It should be noted that this comparative study involves two distinct but connected dependent variables: the effectiveness of policy responses in stimulating economic recovery and the resumption of growth, and the factors which determined exposure to the financial crisis. This dual consideration affected case selection. Specifically, Greece was selected as a prime exemplar of the former, while being of limited analytical value regarding the latter.

This paper finds that economies which received fiscal stimulus (the US and Canada) performed better than those whose governments pursued austerity (the UK and Greece). Iceland did not engage in fiscal stimulus due to the contraction of economic activities and government revenues, however it did engage in monetary expansion in the aftermath of the financial collapse. Greece is the only case study in which monetary expansion was not pursued, due to the constraints of its shared currency. The soundness of countries' financial sectors (or public finances in the case of Greece), debt levels, and risk exposure were the primary determinants of vulnerability to the financial crisis, which in turn influenced the severity of recession. The size of countries' financial sectors relative to their economy also influenced outcomes – Greece was unable to recapitalize its banks because their assets exceeded total GDP by a factor of ten. The US, despite facing a titanic financial meltdown, was able to engage in extensive monetary and fiscal stimulus by drawing on the resources of the world's largest economy. The unique position of the US dollar as the world's reserve currency also facilitated the American response. Such idiosyncratic national conditions should be kept in mind, and do constitute extraneous variables.

Canadian banks followed more conservative business and lending models than their foreign counterparts, and had a closer relationship with government in terms of both

regulatory oversight before the crisis and liquidity support through its duration. The cartel structure of the Canadian banking industry also helped to reduce the informational asymmetries which contributed to excessive risk-taking elsewhere, as banks had access to more information about each others' activities and balance sheets. In every other case study, governments lacked either the institutional capacity or political will to rein in the reckless growth of banks' liabilities (or public debt in the Greek case).

1.3 Theoretical Overview

The stock market crash of 1929 which led to the Great Depression contributed to a widely held view that financial markets are inherently unstable, expressed most famously in the theories of John Maynard Keynes and Hyman Minsky.[12] Keynes and his disciples predicted that the concentration of wealth would drain the purchasing power of the middle and lower classes, those most likely to consistently support demand for goods and services. Such an economy would become "dangerously dependent on the luxury spending of the wealthy few and on unsustainably high levels of private investment."[13] Such an economy would be susceptible to a liquidity trap wherein expectations of falling demand and profit would prevent new investment, in which case the government would be the only viable driver of economic growth. Such fiscal profligacy would require a central bank willing to maintain low interest rates, and financial regulation to control credit and prevent it from relocating into speculative bubbles.[14]

Instability arising from the increasing complexity and interconnectedness of financial markets prompted a paradigm shift toward much more comprehensive state regulation of financial markets in the postwar period. In the 1970's and 80's economic malaise and the ascension of efficient market theory drove a shift in the opposite direction, away from a

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[12] James Crotty, "Structural Causes of the Global Financial Crisis: a Critical Assessment of the 'New Financial Architecture'," *Cambridge Journal of Economics* 33 (2009): 563.
[13] Timothy A Canova, "Financial Market Failure as a Crisis in the Rule of Law: from Market Fundamentalism to a New Keynesian Regulatory Model," *Harvard Law & Policy Review* 3 no. 2 (2009): 371.
[14] Canova, "Financial Market Failure as a Crisis in the Rule of Law," "Financial Market Failure as a Crisis in the Rule of Law," 372-75.

statist Keynesian model and toward "globally-integrated deregulated neoliberal capitalism."[15] The last three decades have seen increasing global integration of financial markets which have been decreasingly regulated at the national level. This has allowed innovation in financial transactions, which critics of neoliberal theory argue have "stimulated powerful financial booms," typically ending in crisis and the necessity of state intervention.[16]

Debate over the economic role of the state has two dimensions in this paper: One is the immediate policy responses to the crisis, generally varying between fiscal stimulus and austerity (even in cases where austerity was chosen, monetary expansion was still generally employed); the second arena of contention regards the role of the state in economic, and especially financial, governance. The comparison of policy responses in this paper thus considers stimulative Keynesian versus austere neoliberal approaches. The American and Canadian responses typically favoured fiscal expansion along roughly Keynesian lines. The Greek and British cases saw a general adherence to austerity, although in the Greek case this is complicated by exogenous influences stemming from membership in the European currency. The Icelandic case is a prime example of the dynamics which drove the financial meltdown, although Iceland's policy responses were largely outside of real government control due to the scale of the financial collapse.

The second set of considerations concerns the systemic instability which caused the crisis, and has to do with longer-term financial governance. The US, UK, Greek and Icelandic cases all demonstrate failures of financial governance to varying degrees, while the Canadian case provides a counterpoint of relatively successful and conservative financial sector management. This dimension considers more broadly statist versus free-market approaches to financial governance, but can still be related to the Keynesian/neoliberal debate in its emphasis on the role of government intervention in mitigating the amplitude of economic fluctuations. Indeed, to focus merely on policy response without considering the broader framework of state economic regulation would

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[15] Crotty, "Structural Causes of the Global Financial Crisis," 564.
[16] Crotty, "Structural Causes of the Global Financial Crisis," 564.

be to misinterpret Keynes. To only focus on monetary and fiscal stimulus post-crisis is to ignore the broader Keynesian policy goals, such as more equal income distribution. Those who would favour stimulus and bailouts in the absence of more comprehensive, state-mandated economic and financial governance have in fact been labeled "Commercial Keynesians," "Wall Street Keynesians," or, more bluntly, "Bastard Keynesians."[17]

Critics on the left highlight the incentives for financial firm operators and ratings agencies to generate as great a volume of highly-rated securitized debt as possible. Compensation structures and the transfer of liability in the 'originate-to-distribute' model are argued to undermine the theory that deregulated markets will distribute risk where it is best able to be borne.[18] The accurate calculation of risk in pricing complex securities – Mortgage-Backed Securities (MBS's) which pool hundreds of mortgages and Collateralized Debt Obligations (CDO's) which include dozens of MBS's – has been argued to be impossible in practical terms. Regulators meanwhile stood aside and let banks and ratings agencies decide what constituted appropriate levels of leverage, risk, and capital. This obvious conflict of interest led firms to use risk management models which vastly underestimated loss exposure, stimulating risky investments through compensation structures which encouraged such practices.[19] These transgressions by actors in a market free of government intervention militate against the laissez-faire approach to financial market regulation which is central to neoliberal philosophy.

The Keynesian prescription for responding to recessions advocates public spending to stimulate demand, once the scope of monetary policy has been exhausted as interest rates approach zero percent.[20] Neoliberal proponents advocate instead a reduction of state spending and dogged pursuit of a balanced budget, with the aim of increasing business confidence and the role of the private sector. The Thatcher and Reagan administrations of

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[17] Canova, "Financial Market Failure as a Crisis in the Rule of Law," 389.
[18] Crotty, "Structural Causes of the Global Financial Crisis," 565-66.
[19] Crotty, "Structural Causes of the Global Financial Crisis," 568-72.
[20] Maurice Mullard, " "Explanations of the Financial Meltdown and the Present Recession," *The Political Quarterly* 82 no. 2 (2011): 204.

the 1980's in the United Kingdom and United States, respectively, are often cited as prime examples of this policy framework, despite the fact that public spending as a proportion of GDP increased in both countries at this time.[21] One extreme area of debate during the crisis was the partial nationalisation of insolvent banks. The IMF estimates the total global cost of bank bailouts during the crisis at around $16 trillion.[22] This expenditure of public funds was undertaken to maintain business confidence in the survivability of financial institutions. It should be noted, however, that bailouts do not conform to the Keynesian prescription of undertaking fiscal stimulus to support aggregate economic demand.

The instability of American financial institutions, transmitted worldwide through globalized financial networks, stemmed from an asset bubble of overvalued real estate assets and their associated securities and derivatives. This in turn can be traced to the shift to an "originate-to-distribute" model of securitization, characterized by moral hazard. Moral hazard arises if institutions are not required to maintain the debt they originate, and thus do not bear the risk they generate, but instead pass it on to others without sufficient transparency of default risk. The unregulated securities market played a critical role in generating the crisis, experiencing a run as an unprotected market "much as commercial banks and thrift institutions had been exposed to runs prior to the creation of deposit insurance."[23]

On the other side of the ideological divide, free market proponents can credibly point to the role of government in creating conditions which allowed the housing bubble to arise. These include the policy of promoting low-income home-ownership dating back to the post-war period which was continued under the Clinton and Bush administrations, as well as the maintenance of low interest rates after the recession of 2001.[24] These policies encouraged the explosion of credit and debt of the early 2000's. From this perspective, the problem is not that a neoliberal policy platform was followed, but that it was not

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[21] Mullard, "Explanations of the Financial Meltdown and the Present Recession," 204.
[22] Mullard, "Explanations of the Financial Meltdown and the Present Recession," 205.
[23] Mullard, "Explanations of the Financial Meltdown and the Present Recession," 213.
[24] Mullard, "Explanations of the Financial Meltdown and the Present Recession," 209.

followed closely enough. Countercyclical policies to prevent economic bubbles are thus argued to have a disproportionate effect on market dynamism and overall prosperity. Another major area of theoretical debate is whether the crisis was inevitable – that is, bubbles just happen – or whether specific policy decisions allowed it to occur.

Canada's financial sector, government, and broader economy conformed to countercyclical patterns of investment and savings, whereas the other cases in this paper were procyclical in these regards, making them more vulnerable to sudden reverses starting in 2007. Significantly, Canada's banking system has united commercial and investment banking since before the 1980's, preceding the American repeal of Glass-Steagall by several decades. The common criticism that the financial crisis was caused by the American move to universal banking is thus not supported by the findings in this paper. The Canadian experience demonstrates that banks can be large and universal, but that they must be stable and transparent. This suggests not an avoidance of allowing firms to become 'too big to fail', but a recognition that such firms must be subject to close government oversight due to the element of public good in their activities. This again supports a statist-interventionist approach to overall economic governance. Adam Smith himself advocated constraints to private liberty for individuals whose actions might endanger the broader society, especially regarding banks.[25] It is here argued that the only remedy for such a crisis is prevention, in the form of more comprehensive and proactive regulatory oversight as well as improved risk transparency in securities markets. Potential avenues for improvement in financial governance at the national and international level are therefore considered in the conclusion.

The first case study in this paper examines the history and growth of the subprime housing asset bubble leading to the financial crisis. As the economic and political leader of the free (market) world, the United States is where the financial crisis, and this analysis, begin.

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[25] Otmar Issing, "Some Lessons from the Financial Market Crisis," *International Finance* 12 no. 3 (2009): 437.

2 UNITED STATES

As the epicentre of the global financial crisis, the United States is a necessary starting point for analysis. As the wave of deregulation culminated in the repeal of the Glass-Steagall Act in 1999, the US saw the rise of large financial conglomerates with investment and commercial banking portfolios. The 2004 decision to allow banks to carry assets in structured off-balance sheet entities, reaffirmed in Basel II[26] the same year, created the conditions for the explosion of asset-backed securitization. The increase in systemic risk from the widespread trade in asset-backed securities and derivatives, financed through short-term borrowing, was not addressed by regulators at the Securities and Exchange Commission or the Federal Reserve. This failure in both corporate and public governance resulted in the freeze of credit markets when the value of underlying assets began to collapse in 2007.

Global financial linkages and the highly leveraged position of financial institutions turned this freeze in short-term lending into a threat to the solvency of some of the world's largest financial firms. In the United States, this resulted in a massive bank rescue by the federal government, as well as monetary and fiscal expansion to combat the resulting drop in economic activity. As the world's largest economy and leading financial power, the experience of the US is vital to an understanding of the dynamics underlying the financial and economic crisis. As the source of the crisis and the leader in global financial governance, the policy lessons drawn from the US case are crucial to preventing such a crisis in the future. Monetary and fiscal stimulus were employed to combat the effects of financial and economic crisis, and were generally successful in this despite the limited transmission of monetary expansion through the financial sector to the broader economy. The lack of effective regulatory oversight and micro-prudential management are seen as the primary factors affecting the generation and severity of the financial crisis.

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[26] Since the 1980's the rules governing capital adequacy for financial institutions have been outlined in the internationally-recognized Basel Accord. Current standards are outlined under "Basel II", although the amendments proposed in 2010 ("Basel III") would raise capital requirements. Leblond, "Canada, the European Union, and Transatlantic Financial Governance," 68.

2.1 Financial Regulation

Deficient regulation comprises one prominent perspective regarding the origination of the financial crisis in the United States. It has been observed that regulators were insufficiently concerned with banks' off-balance sheet activities and the potential bursting of the real estate asset price bubble, and that they failed to perform appropriate institutional stress tests.[27] Kaufman and Malliaris point out that the United States is "the only major country that neither publishes a financial stability report" analyzing financial system fragility and vulnerability to shocks, "nor participates in the IMF-World Bank Financial Sector Assessment Program, which evaluates bank fragility."[28] Before the crisis, bank regulators and the Federal Reserve possessed the legal authority to require higher capital ratios for banks and to monitor the off-balance sheet activities of bank holding companies. It has thus also been argued that the financial meltdown was not so much a regulatory failure as "a failure of regulators."[29]

The Depository Institutions Deregulation and Monetary Control Act of 1980 largely freed banks from previous ceilings on depositary and mortgage interest rates, and liberalized restrictions on new financial innovations. This opened a decade of financial liberalization, which saw the dismantling of the intricate credit controls which had mitigated systemic risk by preventing a subprime mortgage market for borrowers with bad credit from developing.[30] The counter-Keynesian revolution culminated in the 1999 Gramm-Leach-Bliley Financial Services Modernization Act, which removed many elements of the 1929 Glass-Steagall Act mandating the separation of commercial banking and insurance companies from engaging in generally-riskier investment banking.[31] One of the main lobbyists for this legislation was Robert Rubin, former head of Goldman Sachs and later Treasury Secretary in the Clinton administration. Rubin pushed for the

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[27] George G. Kaufman and A. G. Malliaris, "The Financial Crisis of 2007-2009: Missing Financial Regulation or Absentee Regulators?" in *Lessons from the Financial Crisis: Causes, Consequences, and Our Economic Future*, ed. Robert W. Kolb (Hoboken NJ: John Wiley & Sons, 2010), 340.
[28] Kaufman and Malliaris, "The Financial Crisis of 2007-2009," 340.
[29] Kaufman and Malliaris, "The Financial Crisis of 2007-2009," 340-41.
[30] Canova, "Financial Market Failure as a Crisis in the Rule of Law," 376-77.
[31] Canova, "Financial Market Failure as a Crisis in the Rule of Law," 385-86.

deregulatory bill even as he was negotiating his transition from the Treasury to a co-chair position at Citigroup. Despite this obvious conflict of interest, Rubin was never charged for unethical behaviour.[32] This illustrates the degree to which regulatory capture and the "revolving door" between industry and government helped drive financial deregulation.

In 2004 the American Securities and Exchange Commission (SEC) greatly increased the amount of leverage investment banks could hold under pressure from then-Goldman Sachs chair and current Secretary of the Treasury Henry Paulson. The SEC raised acceptable leverage from twelve times held capital to forty times, while also making compliance voluntary.[33] This decision crucially allowed the use of off-balance sheet entities including Structured Investment Vehicles (SIV's), exempting firms from capital requirements for their investments in asset-backed securities and credit derivatives.[34] From 1981 to 2007 financial asset values in the US grew from four times total GDP to ten times, household debt increased from 48% of GDP to 100%, and private sector debt rose from 123% of GDP to 290%. Financial sector debt rose from 22% of GDP in this period to 117%. The financial sector accrued 10% of corporate profits in the early 1980's compared to 40% in 2006, growing from a 6% share of total stock market value to 23% in the same period.[35]

Clearly the financial leveraging, or debt-based investment, allowed by deregulation since the 1980's has been vastly profitable for the financial sector, and has allowed growth in investment and consumption through the expansion of credit availability. However the scale of the current crisis implies that the degree of systemic risk needs to be monitored and managed to prevent the value of financial sophistication from being outweighed by the socio-economic shocks of rapid deleveraging during crises. According to testimony by Ben Bernanke to the Financial Crisis Inquiry commission in 2010, American financial regulation is a landscape of "enormous gaps in authority, duplication of responsibility,

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[32] Canova, "Financial Market Failure as a Crisis in the Rule of Law," 385-86.
[33] James Crotty, "Structural Causes of the Global Financial Crisis," "Structural Causes of the Global Financial Crisis: a Critical Assessment of the 'New Financial Architecture'," *Cambridge Journal of Economics* 33 (2009): 574.
[34] Canova, "Financial Market Failure as a Crisis in the Rule of Law," 384.
[35] Crotty, "Structural Causes of the Global Financial Crisis," 575-76.

and unhealthy jurisdictional competition."[36] Finance has been deregulated, but is not unregulated, and the structure and execution of regulatory oversight in finance is thus crucial in managing systemic risk.

Financial regulation is a difficult and highly contested arena of US politics. From 1998 to 2008 the financial industry spent $1.7 billion on campaign contributions and $3.4 billion on lobbying federal officials.[37] The Obama administration has also been criticized for delegating management of the crisis to officials who worked extensively on behalf of the financial industry in support of deregulation. These include Treasury Secretary Timothy Geithner, Chief Economic Advisor Larry Summers, and former Treasury Secretary and Goldman Sachs chair Robert Rubin. It has been argued that this represents a commitment by this administration to the status quo, and the prioritization of restoring financial sector profitability rather than overhauling the regulatory system to reduce systemic risk.[38]

2.2 The Housing Bubble

The median American family holds most of its wealth in the form of equity in its home, and it is thus unsurprising that all levels of government adopt policies aimed at increasing home values.[39] Median home values rose from $30,600 in 1940 to $119,600 by the year 2000 (both in 2000 dollars). Of the net wealth of America's bottom 95% wealthiest households, two thirds lies in home equity.[40] Home values thus significantly affect personal wealth, influencing choices of consumption and investment which powerfully shape the economy. Through 2008 home prices fell 17%, while stock market values fell 37%.[41] This massive reduction in personal wealth led to decreased spending, especially on goods, which reduced demand for these goods and related services, resulting in a

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[36] Mullard, "Explanations of the Financial Meltdown and the Present Recession," 212-213.
[37] Wall Street Watch, "Sold Out: How Wall Street and Washington Betrayed America," in *Wall Street Watch Reports*, March, 2009, accessed July 3, 2012, http://www.wallstreetwatch.org/reports/sold_out.pdf.
[38] Crotty, "Structural Causes of the Global Financial Crisis," 578.
[39] Roger Congleton, "On the Political Economy of the Financial Crisis and Bailout of 2008-2009," *Public Choice* 140 (2009): 287.
[40] Congleton, "On the Political Economy of the Financial Crisis and Bailout of 2008-2009," 288.
[41] Congleton, "On the Political Economy of the Financial Crisis and Bailout of 2008-2009," 288.

recession. With reduced aggregate demand, unemployment rose 53% from 4.7% to 7.2% of the workforce, the highest rate since 1993.[42] Unemployment reached 9.3% in 2009, and in 2010 the American unemployment rate peaked at 9.6% before dropping down to 9.1% in 2011.[43] It is clear that the collapse of financial markets in beginning in 2007 had enormous and dire consequences for the real economy.

The global financial crisis, originating in the United States in 2007, represented a drastic simultaneous reappraisal of systemic risk among lending institutions, freezing global credit markets and affecting global volumes and patterns of trade.[44] Systemic risk here refers to the probability of breakdowns in an entire system (as opposed to individual components). This can occur through losses at an individual institution which prevent it from fulfilling its contractual obligations, leading to cumulative losses at other institutions within the system in a chain reaction of defaults. Systemic risk can also manifest simply through market reappraisal of participants' risk, based on the similarity of their risk exposure profile to an initial loss-suffering entity. This second process has much more to do with "uncertainty" than "risk" proper, prompting a pattern of market panic and liquidity hoarding until the severely affected institutions are separated from the broader marketplace.[45] Shifts in global financial flows and growing financial interconnectedness in the preceding decades of globalization created the global market context for the crisis.

The Asian stock market crash of 1997-98 saw Asian investors direct capital out of the region in search of 'safe' financial markets and to keep exchange rates low but stable for export-dependent Asian economies.[46] This was particularly true of sovereign investors such as the Chinese central bank, which invested heavily in US government bonds, "effectively providing a new source of liquidity and low long-term interest..."[47] This easy credit drove a boom in the American housing market, which was also fuelled by

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[42] Congleton, "On the Political Economy of the Financial Crisis and Bailout of 2008-2009," 289.
[43] Central Intelligence Agency, "United States," *CIA World Factbook,* last updated April 6, 2011, accessed April 9, 2012, https://www.cia.gov/library/publications/the-world-factbook/geos/us.html.
[44] Warwick J. McKibbin and Andrew Stoeckel. "Modelling the Global Financial Crisis," *Oxford Review of Economic Policy* 25 no. 4 (2009): 581-582.
[45] Kaufman and Malliaris, "The Financial Crisis of 2007-2009," 338-39.
[46] McKibbin and Stoeckel, "Modelling the Global Financial Crisis," 585.
[47] Wendy Dobson, *Gravity Shift: How Asia's New Economic Powerhouses Will Shape the 21st Century* (Toronto, Canada: University of Toronto Press, 2009), 70.

investors' flight from the telecom sector after the dotcom crash of 2001.[48] That recession, and the conversion of savings from rapidly growing surplus economies into credit for consumers and governments in deficit-running consumption economies, triggered an expansionary monetary policy by the Fed until 2004.[49] From 2004-2007 rising commodity prices and inflationary concerns due to growing Asian demand prompted the Fed to raise interest rates. Foreign and domestic capital was now redirected towards the 'safe' housing market, both through direct investment and indirectly through investment in US government bonds. Low interest rates from 2001-2004, and subsequent deregulation allowing off-balance sheet investments, generated the growth of easy credit in the US economy which fuelled a housing asset bubble.

The recent financial crisis can only be understood in the context of increasing financial integration and systemic interdependence. In the early twentieth-century American home mortgages were held by local banks, and mortgage defaults leading to bank failures tended to be regional in nature and tied to overall regional economic performance. In the 1930's the Hoover administration created the Federal Home Loan Banks to provide short-term credit to Savings & Loan companies, laying the groundwork for President Franklin Roosevelt's establishment of the Federal National Mortgage Association (FNMA or 'Fannie Mae'). These institutions were intended to provide liquidity to housing markets, and the role of FNMA specifically was to both buy and insure mortgages.[50]

In 1949 the Federal Housing Act created the Federal Housing Administration (FHA) to insure home mortgages and build 810,000 units of public housing. These institutions succeeded in promoting home ownership, which grew from 43.6% of households in 1940 to 61.9% in 1961.[51] FNMA was privatised in 1968, and in 1970 the Federal Home Loan Mortgage Corporation (FHLMC or 'Freddie Mac') was established. 'Freddie' would not only make and insure home loans, but would also securitize loans in an effort to create a

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[48] McKibbin and Stoeckel, "Modelling the Global Financial Crisis," 585.
[49] John Goddard, Phil Molyneux and John O.S. Wilson, "The Crisis in UK Banking," *Public Money and Management* 29 n. 5 (2009): 277.
[50] Congleton, "On the Political Economy of the Financial Crisis and Bailout of 2008-2009," 290.
[51] Congleton, "On the Political Economy of the Financial Crisis and Bailout of 2008-2009," 290.

market for mortgage securities and thus spread their associated risk.[52] This would be done by pooling the value of mortgages and selling these aggregated values as securities, reducing *perceived* associated risk to attract investors, and thereby increasing the supply of mortgages and decreasing their market price.[53] The lower price would result in mortgages being available to more people of lower incomes, who otherwise would not qualify, further increasing home ownership in the United States.

Although they were technically private entities, Fannie and Freddie had the implicit backing of the federal government, and were thus able to borrow at a lower rate. Further exemptions from many federal and state taxes translated into a roughly $1 billion/year subsidy for these 'quasi-national' enterprises. Freddie also pioneered the use of off-balance sheet entities to hide losses and liabilities.[54] However, since these subsidies and liabilities were unofficial they did not appear on the government's balance sheet and so did not provide fees for what was in essence state insurance. These foregone insurance fees, which would have been paid were Fannie and Freddie wholly private firms, resulted in even higher profits which were passed on to shareholders.[55] Following the Federal Housing Enterprises Financial Safety and Soundness Act of 1992, Fannie and Freddie were to be overseen by the Department of Housing and Urban Development, and so the assumption by investors of government backing and support is understandable. Under this same law, the GSE's were encouraged by their unofficial government backers to make ever-riskier home loans in an effort to further promote affordable housing in low- and medium-income areas.[56]

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[52] Peter L. Swan, "The Global Crisis and its Origins," in *Lessons from the Financial Crisis: Causes, Consequences, and Our Economic Future*, ed. Robert W. Kolb (Hoboken NJ: John Wiley & Sons, 2010), 51.
[52] James A.H.S. Hine and Ian Ashman, "Iceland's Banking Sector and the Political Economy of Crisis," in *Lessons from the Financial Crisis: Causes, Consequences, and Our Economic Future*, ed. Robert W. Kolb (Hoboken NJ: John Wiley & Sons, 2010), 554.
[53] Congleton, "On the Political Economy of the Financial Crisis and Bailout of 2008-2009," 290.
[54] Swan, "The Global Crisis and its Origins,"51.
[55] Congleton, "On the Political Economy of the Financial Crisis and Bailout of 2008-2009," 291.
[56] For example, the Federal Housing Enterprises Financial Safety and Soundness Act of 1992 explicitly states that the FNMA and FHLMC have an "affirmative obligation to facilitate the financing of affordable housing for low- and moderate-income families…" Congleton, "On the Political Economy of the Financial

This expansion of increasingly risky mortgage lending continued under Presidents Clinton and Bush, essentially allowing housing to be subsidised without congressional approval or funding. This was the emergence of the 'sub-prime' class of mortgages. Sub-prime mortgages typically carried high fees and consisted of much less documentation than prime mortgages. They typically also required a much smaller down payment as a proportion of home value (often less than 10%), and frequently included interest payments representing over half of a borrower's income. Their defining characteristic, however, was their extension to "borrowers with poor credit history or no legitimate financial capacity to assume mortgage loans."[57] Sub-prime mortgages thus represent a primary point of leverage, wherein the borrower takes on debt far in excess of their assets, which consisted of the small amount of equity in their home.

These revenue streams from the payments on these new mortgages were pooled into securities considered to be 'low risk', creating 'new' financial assets. Mortgage-backed Securities were then marketed to investors in an 'originate-to-distribute' model. Banks would trade these securities through off-balance sheet investment vehicles, or conduits, referred to as "Structured Investment Vehicles." The default risk of borrowers was thus passed on by the originating institution, through these long-maturing SIV's, to short-term investors – many of whom in turn were other financial institutions. [58] By June 2008 Fannie and Freddie's debts and obligations totalled $6.6 trillion, $1.3 trillion more than the entire US public debt.[59]

The new housing-based credit market added to the credit availability generated by low interest rates, allowing easy refinancing leading to an artificially low mortgage default rate in the years 2000-2007. The assumption that mortgages could be repaid through

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Crisis and Bailout of 2008-2009," 291; Mullard, "Explanations of the Financial Meltdown and the Present Recession," 210.

[57] Peter Yeoh, "US and UK Legal Responses to the Global Financial Crisis," *Business Law Review* 30 no. 4 (2009): 86.

[58] Goddard et al., "The Crisis in UK Banking," 278.

[59] Congleton, "On the Political Economy of the Financial Crisis and Bailout of 2008-2009," 292.

refinancing worked, as long as house prices continued their decades-long trend of appreciation. This assumed asset appreciation would allow even low income households to post their own houses as collateral, which they could always sell in order to repay the loan.[60] The risk of default was thus theoretically very low, even for low income households, *so long as house prices were increasing.* This low default rate, and thus 'low risk', allowed higher profits through lower lending rates. The cycle of high profit through superficially low risk led major investment banks, the main barometers of market risk assessment, to uncritically accept the value of mortgages and their derivative securities.[61]

The loosening of financial regulations from 1994 through 2004 allowed the merging (through holding companies) of investment banks, insurance, and securities trading firms as well as the reduction of capital reserves.[62] Capital reserves were also not required for "off-balance sheet" entities such as "Structured Investment Vehicles" or SIV's, investments whose liabilities did not appear on corporate balance sheets as long as they could find continual sources of financing. These SIV's included MBS derivatives such as collateralized debt obligations (CDO's).[63] Lenders could now legally take riskier actions, while the organizations responsible for assessing (and therefore pricing) this risk were now the same ones who would profit from an artificially low risk assessment. The perception of low risk was reinforced by default insurance, the provision of which was dominated by American International Group (AIG).[64] In 2004 home ownership in the United States peaked at 69.2%, which proved popular with voters upon whom the subtleties of the system were largely lost while its outcome seemed to 'work'.[65]

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[60] Steven L. Schwarcz, "Understanding the Subprime Financial Crisis," in *Lessons from the Financial Crisis: Causes, Consequences, and Our Economic Future*, ed. Robert W. Kolb (Hoboken NJ: John Wiley & Sons, 2010), 69.
[61] Congleton, "On the Political Economy of the Financial Crisis and Bailout of 2008-2009," 293.
[62] Congleton, "On the Political Economy of the Financial Crisis and Bailout of 2008-2009," 294.
[63] Dale Gray, "Modelling Financial Crises and sovereign Risks," *Annual Review of Financial Economics* 1 (2009): 122-23.
[64] Swan, "The Global Crisis and its Origins,"52.
[65] Congleton, "On the Political Economy of the Financial Crisis and Bailout of 2008-2009," 296.

2.3 Bubble Burst and Financial Crisis

In 2003 Fannie and Freddie registered with the Securities and Exchange Commission (SEC), subjecting them to a mandatory evaluation of accounting practices previously not required. The Government-Sponsored Enterprises (GSE's) were found to have routinely and intentionally violated industry best practices when assessing risk and making loans. This was due to direct encouragement from government which sought to maintain this off-budget housing subsidy.[66] That the liabilities represented by MBS and CDO markets were reflected neither on private nor public balance sheets meant that they existed outside of the regulated banking sector, and by 2007 the market amassed $5.9 trillion in unregulated assets with no lender of last resort.[67]

Opportunities to refinance mortgages began to grow scarce in the wake of rising interest rates from 2004, with US house prices peaking in mid-2006. As financial room to manoeuvre shrank, sub-prime mortgages experienced a wave of delinquencies and foreclosures.[68] In 2005 mortgage defaults began to increase, however MBS financial products continued to be considered 'low risk'. Meanwhile, mortgage insurers were paying more and more to cover increasing defaults, but had maintained insufficient capital stocks.[69] Because the long-maturing debt-based securities were marketed as short-term investments which had to be constantly refinanced as investors withdrew their money, major banks had to cover the gap in credit as lenders stopped reinvesting.[70] Fewer investors reduced demand, lowering prices of debt-based securities. This forced firms to sell assets to raise short-term cash, which further flooded the market with securitized assets in a downward price "death spiral."[71]

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[66] Congleton, "On the Political Economy of the Financial Crisis and Bailout of 2008-2009," 297-298.
[67] Gray, "Modelling Financial Crises and sovereign Risks," 123.
[68] Yeoh, "US and UK Legal Responses to the Global Financial Crisis," 86.
[69] Congleton, "On the Political Economy of the Financial Crisis and Bailout of 2008-2009," 301.
[70] Gray, "Modelling Financial Crises and sovereign Risks," 124.
[71] Schwarcz, "Understanding the Subprime Financial Crisis," 70.

Leverage is used by firms to increase gains (and losses) on investment by using borrowed funds to purchase assets beyond what their total equity would allow. The higher a firm's asset-to-equity ratio is, the greater its leverage and the higher its risk exposure. Firms can lower this exposure by selling assets to pay off debt, reducing their asset-to-equity ratios.[72] However, in the event of an economy-wide asset sell-off the value of assets themselves falls rapidly with demand. Selling these devalued assets at a loss thus reduces equity as well as – and potentially more than - liabilities. This is exactly what occurred from December 2007 through March 2009, as the American Dow Jones Industrial Average declined over 51%.[73] This prevented many companies from deleveraging even as they attempted to sell off assets and repay debt, as their equity values declined sufficiently to maintain or even increase their asset-to-equity ratios. Even as some debt was paid off, its weight against remaining equity did not shrink. Risk exposure thus remained, keeping investment scarce.

As losses began to outweigh revenues and reserves a severe liquidity crunch emerged as banks became wary of lending to each other. Through mid- to late-2007 American and European banks began to warn investors they would receive little if any returns from certain funds as their values became impossible to determine and interbank refinancing dried up. It was unclear who possessed these bad assets, which had been so widely distributed through the financial system.[74] The portfolios of firms invested in the MBS market (as most large investors were) lost value, leading stocks to plummet as investors rushed to sell of risky assets. The downward spiral of investment ratings and investor confidence began to shake the entire financial system.[75] The housing price collapse spread through financial institutions to the wider housing sector. This collapse in house prices, and thus household wealth, combined with the evaporation of credit markets to freeze both consumer spending and corporate investment. The financial crisis thus spread to the real economy, bringing the flow of capital, goods and services to a standstill.

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[72] Marthinsen, "Four Paradoxes of the Crisis," 63.
[73] Marthinsen, "Four Paradoxes of the Crisis," 64.
[74] Gray, "Modelling Financial Crises and sovereign Risks," 124.
[75] Gray, "Modelling Financial Crises and sovereign Risks," 124.

2.4 Policy Response: Financial Interventions

In March 2008 Bear Stearns, America's second largest mortgage lender, was bought by JPMorganChase for 2% of its book value in a deal whereby the Fed essentially covered the $30 billion difference by providing loan guarantees.[76] In July 2008, Congress passed the Housing and Economic Recovery Act (HERA), authorizing the Treasury to buy unlimited GSE securities to prevent default on GSE obligations, the cost of which was estimated at about $25 billion.[77] By 2009, revelations of the extent of Fannie and Freddie's asset values had increased this cost to over $200 billion, including $40 billion in new credit to the firms.[78] The entire financial sector bailout is estimated to expose the US government to an additional $8 trillion in credit risk, as it has in fact entailed greater implied guarantees to the financial sector.[79] Government attempts to ensure solvency of large financial firms creates a 'moral hazard' of recklessness if banks are seen as 'too big to fail', encouraging riskier (and therefore potentially more profitable) actions because ultimately it is taxpayers who are accountable for managerial decisions.[80]

Lehman Brothers' bankruptcy in September, 2008 exceeded the scale of any previous bankruptcy in world history by a factor of six, and fueled the growing panic in financial markets.[81] The Fed subsequently acquired 80% of AIG in an $85 billion rescue loan.[82] In late September the US's largest savings and loan institution, Washington Mutual, was sold to J.P. Morgan. By the end of September the fourth largest US bank, Wachovia, was acquired by Citigroup.[83] To avoid insolvency Fannie and Freddie were (re)nationalized at

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[76] Gray, "Modelling Financial Crises and sovereign Risks," 124; Goddard et al., "The Crisis in UK Banking," 280.
[77] Marvin Phaup, "Federal Use of Implied Guarantees: Some Preliminary Lessons from the Current Financial Distress," *Public Administration Review* (July-August 2009): 654.
[78] Phaup, "Federal Use of Implied Guarantees," 655.
[79] Phaup, "Federal Use of Implied Guarantees," 652.
[80] Phaup, "Federal Use of Implied Guarantees," 652.
[81] Schwarcz, "Understanding the Subprime Financial Crisis," 70.
[82] Gray, "Modelling Financial Crises and sovereign Risks," 124; Congleton, "On the Political Economy of the Financial Crisis and Bailout of 2008-2009," 303.
[83] Goddard et al., "The Crisis in UK Banking," 281.

this time, and taxpayers now explicitly guaranteed a large proportion of MBS's. Treasury Secretary Henry Paulson, who had defended the Bear Stearns' bailout on the grounds of financial stability, subsequently pushed for an additional $700 billion in federal funds to purchase other MBS's ('troubled assets') in order to prevent a wide scale market crash by propping up demand.[84] When the House of Representatives rejected this Troubled Asset Relief Program (TARP) at the end of September 2008 world markets began a panicked sell-off, "wiping out $1 trillion in market value."[85]

While it has commonly been argued that it was the government decision not to prevent the Lehman Brothers' collapse which drove financial markets into a panic[86], this is not necessarily the only explanation. While interbank lending rates did rise somewhat after the Lehman Brothers' bankruptcy, markets largely calmed after the intervention to rescue AIG a few days later.[87] Taylor has argued that it was in fact the testimony presented by Fed chairman Ben Bernanke and Treasury Secretary Henry Paulson on September 23, a week after Lehman's collapse, which revealed the severity of the crisis and drove markets into a tailspin.

> "They provided a 2-1/2 page draft of legislation with no mention of oversight and few restrictions on the use. They were questioned intensely in this testimony and the reaction was quite negative, judging by the large volume of critical mail received by many members of the United States Congress."[88]

Following this testimony, interbank lending rates increased drastically and consistently. Uncertainty regarding the criteria for government intervention to save financial

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[84] Congleton, "On the Political Economy of the Financial Crisis and Bailout of 2008-2009," 305.
[85] Gray, "Modelling Financial Crises and sovereign Risks," 125.
[86] Mullard, "Explanations of the Financial Meltdown and the Present Recession," "Explanations of the Financial Meltdown and the Present Recession," 215.
[87] John B. Taylor, "The Financial Crisis and the Policy Responses: An Empirical Analysis of What Went Wrong," *National Bureau of Economic Research Working Paper Series* Working Paper 14631 (2009): 25. Accessed April 26, 2012. http://www.nber.org/papers/w14631.
[88] Taylor, "The Financial Crisis and the Policy Responses," 25.

institutions (saving Bear Stearns and AIG but not Lehman Brothers) was exacerbated rather than mitigated by the vagueness of the TARP legislation.[89]

When Congress finally passed the TARP bill in early October, international financial markets had already undergone severe trauma. The threat of a 'crisis' and financial 'meltdown' panicked stock markets which continued to plummet in a self-fulfilling prophecy.[90] Under TARP, significant government transfers were made to the banking sector and related financial institutions which required a 25% increase in the federal budget and a 7% increase in the total national debt.[91] The Federal Reserve also began purchasing MBS's from Fannie and Freddie in 2008, eventually adding over $1.4 trillion to its balance sheet.[92] Overall, the bailout represented the largest absolute increase in US government debt in history, and the largest proportional debt increase since World War Two.[93]

2.5 Policy Response: Monetary Expansion

The American government's monetary response to the crisis was rapid. When interbank lending initially froze in August 2007, the Federal Reserve injected $24 billion of credit into the financial sector.[94] The Fed cut interest rates from 5.25% in September of 2007 to 2% in April 2008, and finally to .25% by September of 2008.[95] While this did help ease the pressure on financial institutions, it also caused the dollar to depreciate and the price of oil to rise drastically. From August, 2007 to July 2008, oil prices rose from $70 per

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[89] Taylor, "The Financial Crisis and the Policy Responses," 26.
[90] Congleton, "On the Political Economy of the Financial Crisis and Bailout of 2008-2009," 306.
[91] Congleton, "On the Political Economy of the Financial Crisis and Bailout of 2008-2009," 307.
[92] Congleton, "On the Political Economy of the Financial Crisis and Bailout of 2008-2009," 313.
[93] Congleton, "On the Political Economy of the Financial Crisis and Bailout of 2008-2009," 312.
[94] Goddard et al., "The Crisis in UK Banking," 279.
[95] Frederic S. Mishkin, "Is Monetary Policy Effective During Financial Crises?" *American Economic Review: Papers & Proceedings* 99 no. 2 (2009): 573; Taylor, "The Financial Crisis and the Policy Responses," 20-21.

barrel to over $140 per barrel.[96] This caused two secondary shocks to the economy as gasoline prices increased drastically, driving down automobile sales. Oil prices did eventually come back down as estimates of global economic growth worsened. However, the combined rise in oil and other commodity prices resulting from a depreciating dollar served to prolong the crisis, indirectly affecting such economically important sectors as the automobile industry.

While the expansionary monetary policy pursued since the financial crisis has helped corporate borrowing recover from its collapse in 2007-2009, non-corporate businesses (including most small businesses) actually undertook no net borrowing through Q1 2011.[97] As of summer 2011, the majority of loan requests by non-corporate and small businesses were being turned down or receiving only partial approval of their requests. Borrowing rates for these businesses have also remained relatively high, generally over 6%, "even while commercial banks have been able to borrow on the federal funds market at near-zero rates since the beginning of 2009."[98] Pollin demonstrates how these borrowing rates for non-corporate and small businesses have changed little from the mid-2000's, when the federal funds rate varied from roughly 3% to as high as 5.25%.[99]

Commercial and non-depository financial institutions have thus essentially absorbed the effects of the lowering of interest rates by the Fed, increasing cash reserves from $20.8 billion in 2007 to $1.4 trillion (10% of GDP) by Q1 2011.[100] While insufficient reserves were a significant part of the weakness of financial firms which led to the crisis, banks have now gone in the opposite direction of hording cash while remaining wary of lending. The benefit of the Fed's expansionary monetary policy, the provision of affordable credit, has largely accumulated in large financial institutions while remaining difficult to access by smaller businesses. Especially concentrated in the construction and retail industries, these credit market obstacles combined with declining sales have

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[96] Taylor, "The Financial Crisis and the Policy Responses," 20.
[97] Robert Pollin, "US Government Deficits and Debt Amid the Great Recession: What the Evidence Shows," *Cambridge Journal of Economics* 36 (2012): 175.
[98]Pollin, "US Government Deficits and Debt Amid the Great Recession," 176.
[99] Pollin, "US Government Deficits and Debt Amid the Great Recession," 176.
[100] Pollin, "US Government Deficits and Debt Amid the Great Recession," 178.

continued to provide significant challenges to American businesses and economic recovery in general.[101] While monetary expansion has helped improve banks' balance sheets and thus stabilized business confidence, it has not stimulated the resumption of economic growth through increased investment as predicted by Keynesian theory. However, it was still a powerful tool in mitigating the financial crisis and thus forestalling the economic fallout of a total financial collapse.

2.6 Policy Response: Fiscal Stimulus

The financial crisis saw household wealth plummet with asset values, and households reasonably reacted to this balance sheet shock by increasing savings. Personal consumption expenditures in the US account for roughly 70% of GDP, or $10 trillion. This means that every 1% increase in savings reduces spending, and thus income, by roughly $100 billion. From December, 2007 to May, 2009 the US savings rate rose by 6.5% from 0.4% to 6.9% - implying a $650 billion reduction in national income.[102] This increase in savings, while making eminent sense at the micro-economic level, generates massive macro-economic effects on aggregate demand and national incomes. The Economic Stimulus Act passed in February 2008 sought to distribute over $100 billion in cash directly to the American people in an attempt to stimulate demand by boosting household balance sheets. This represented a fiscal rather than monetary response as the funding was provided by borrowing rather than money creation. This temporary rebate did not significantly increase spending, however, as consumption and aggregate demand remained largely unaffected. [103] While the majority of policy response to the crisis through 2008 was monetary in nature, or consisted of targeted bailouts to large firms[104], 2009 saw a massive government stimulus program unveiled.

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[101] Pollin, "US Government Deficits and Debt Amid the Great Recession," 176.
[102] The effect of higher personal savings in reducing growth by lowering consumption and investment is known as the "paradox of thrift." Marthinsen, "Four Paradoxes of the Crisis," 61-62.
[103] Taylor, "The Financial Crisis and the Policy Responses," 18-19.
[104] Goddard et al., "The Crisis in UK Banking," 282.

The American Recovery and Reinvestment Act (ARRA) was passed and signed in February, 2009. Drafted at the urging of the Obama administration, the ARRA was a direct response to the economic crisis with three immediate goals: mitigate job losses and stimulate job growth; "Spur economic investment and stimulate long-term growth"; foster accountability and transparency in government spending.[105] The ARRA allocated $787 billion (raised to over $840 in the Obama administration's 2012 budget) of federal funds into tax credits, government contracts, loans, and entitlements to households and businesses.[106]

So far, the federal stimulus program has allocated $297.8 billion in tax benefits. This includes over $240 billion to individuals and households; $33.5 billion in tax incentives for businesses hiring specific demographics such as veterans and 16-24 year-olds; $10.8 billion for energy efficiency improvements to households and businesses; $9.2 billion for industrial and infrastructure development, education and job training in high-unemployment areas; and $3.7 billion for "assistance with continuing health coverage."[107] The ARRA allocates a further $231.1 billion in government contracts, grants and loans for infrastructural investment in education, transportation, energy efficiency, environmental protection and restoration, housing, technological research, and health.[108] Finally, the ARRA allocates $224.3 billion to entitlement programs such as Medicaid/Medicare, unemployment insurance, family services, housing, and energy and agricultural subsidies.[109] The ARRA represents fiscal stimulus on a titanic scale.

The reaction of economists to this legislation varied according to their perspectives on the economic role of the state. In January 2009 the CATO institute published an ad in major American newspapers wherein approximately 200 economists rejected the need for government spending to stimulate growth. The ad explicitly denied that "all economists

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[105] "The Recovery Act," United States, Recovery Accountability and Transparency Board, Accessed April 27, 2012, http://www.recovery.gov/About/Pages/The_Act.aspx.
[106] "Breakdown of Funding," United States, Recovery Accountability and Transparency Board, Accessed April 27, 2012, http://www.recovery.gov/Transparency/fundingoverview/Pages/fundingbreakdown.aspx.
[107] "Breakdown of Funding," United States, Recovery Accountability and Transparency Board.
[108] "Breakdown of Funding," United States, Recovery Accountability and Transparency Board.
[109] "Breakdown of Funding," United States, Recovery Accountability and Transparency Board.

are now Keynesians" and argued for "reforms that remove impediments to work, savings, investment and production. Lower tax rates and a reduction in the burden of government..."[110] Conversely, more statist-minded economists published their own letter to Congress (also with roughly 200 signatories) urgently advocating adoption of the ARRA to provide "important investments that can start to overcome the nation's damaging loss of jobs... and put the United States back onto a sustainable long-term growth path."[111]

US federal deficits averaged just 0.8% of GDP under president Clinton and 2% under President Bush. By comparison, the deficit reached 10% of GDP ($1.4 trillion) in 2009, 8.9% in 2010, and was projected at 10.9% of GDP in 2011.[112] This occurred as a result of the recession itself through falling profits, asset prices, and thus government revenues. However the sharp deficit increase was also a result of the ARRA. Despite the fears voiced by fiscal conservatives, the fiscal expansion starting in 2009 did not significantly raise interest rates on government debt or inflation.[113] The ARRA also did not 'end' the recession in terms of stimulating growth to bring unemployment back down from its average of around 9%. However, recent research suggests that "the downturn would have been significantly more severe in the absence of the ARRA."[114] Counterfactual forecasts by the Congressional Budget Office considered hypothetical developments in the absence of the ARRA, which it found to have contributed to GDP and mitigated unemployment from 2009-2011. The positive effects of ARRA were simply "too modest relative to the impacts of the financial collapse and great recession."[115] Both monetary and fiscal expansion mitigated the amplitude of the recession, in accordance with Keynesian

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[110] . "Stimulus," CATO Institute, accessed April 27, 2012, http://www.cato.org/special/stimulus09/cato_stimulus.pdf.
[111] "Letter to Congress: Economists Across the spectrum Endorse Stimulus Package," Center for American Progress Action Fund, January 27, 2009, accessed April 27, 2012, http://www.americanprogressaction.org/issues/2009/01/stimulus_letter.html.
[112] Pollin, "US Government Deficits and Debt Amid the Great Recession," 162.
[113] Pollin, "US Government Deficits and Debt Amid the Great Recession," 170.
[114] Pollin, "US Government Deficits and Debt Amid the Great Recession," 178.
[115] Pollin, "US Government Deficits and Debt Amid the Great Recession," 179.

assumptions. However, the scale of economic crisis due to the titanic collapse in financial markets prevented these measure from overcoming such a massive market correction.

2.7 Analysis

The period from 1985-2007 saw a convergence in the field of economic theory that monetary policy was all that was needed to prevent another Depression. "Governments believed that low inflation and interest rates were the ultimate instruments of a free market economy to sustain growth without suffering from booms and bursts, let alone a crisis."[116] Investors overlooked the housing bubble partially because it was obscured by low interest rates, but industry leaders like Ben Bernanke and Alan Greenspan also likely would not have relished acknowledging its role in their successfully ending the 2001 recession.[117] The Federal Reserve typically responds to recessions by lowering interest rates to encourage lending and thus spending and consumption. In the downturn of 1990 interest rates were lowered from 9% to 3%, during the 2001 recession they went from 6.5% to 1%, and in 2008 interest rates were lowered from 5.25% to almost 0%.[118]

The efficacy of monetary policy is inherently limited, as interest rates cannot go below 0%, and the only time they have been so low in the past was during the Great Depression.[119] This underscores Keynes' insight into the need for government spending through fiscal policy when monetary policy options have been exhausted. When the private sector refuses to spend, the public sector must step in.[120] Massive fiscal and monetary stimulus were employed by the US government and did dampen the economic shock resulting from the financial crisis. However, the crisis itself was of such a scale that no response could reasonably have been expected to completely counteract its

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[116] Shujie Yao and Jing Zhang, "On Economic Theory and Recovery of the Financial Crisis," *The World Economy* 34 no. 5 (2011): 765.
[117] Paul Krugman, "How Did Economists Get It So Wrong?" New York Times, September 2, 2009, accessed April 9, 2011. http://www.nytimes.com/2009/09/06/magazine/06Economic-t.html?ref=paulkrugman.
[118] Krugman, "How Did Economists Get It So Wrong?"
[119] Krugman, "How Did Economists Get It So Wrong?"
[120] Krugman, "How Did Economists Get It So Wrong?"

effects. There was simply no "policy silver bullet that could have been expected to contain the crisis."[121] Preventing such financial crises is thus the only remedy to the economic crises they induce.

Fannie and Freddie's status as GSE's implied a government guarantee of their solvency. However, this obligation was not represented in the budget and so its risk went largely unmanaged. Federal guarantees do not eliminate risk, they simply shift it from investors onto taxpayers, with governments unlikely to attempt to control or price this risk while simultaneously denying that a guarantee exists.[122] The implied federal guarantee of Fannie and Freddie served as an indirect subsidy by reducing the burden of risk compensation from the GSE's to investors, who were willing to buy even from near-insolvent GSE's because the ultimate issuer of debt-based securities is seen to be the US Treasury. In lieu of paying the government for this privilege, Fannie and Freddie were tasked with providing credit to "underserved markets".[123] These GSE's produced large profits for shareholders because their borrowing and lending privileges allowed higher net income than for comparable private financial institutions. When private institutions did enter the market for these artificially low-risk securities, they profited from the established market 'wisdom' of artificially low mortgage default risk. Private entrance into mortgage securitization thus expanded the ultimate risk exposure of government. In the American case then, the implied guarantee thus became a form of corporate subsidy, which did not appear in the budget because it would only be paid in the event of market failure.[124]

The US government enlisted the private financial sector to facilitate government financing by securitizing and marketing mortgage risk. Beyond moral hazard is the problem of 'regulatory capture' of government institutions by organizations they are supposed to oversee. The Fed faces a potential conflict of interest as the lender of last

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[121] Yacine Aït-Sahalia et al., "Market Response to Policy Initiatives During the Global Financial Crisis," *Working Paper 15809 NBER Working Paper Series*. Cambridge, MA: National Bureau of Economic Research, 2010, p. 23. Accessed March 2, 2012. http://www.nber.org/papers/w15809.
[122] Phaup, "Federal Use of Implied Guarantees," 651.
[123] Phaup, "Federal Use of Implied Guarantees," 653.
[124] Phaup, "Federal Use of Implied Guarantees," 653.

resort to banks and emergency provider of liquidity, as it bears the responsibility of rescuing banks 'too big to fail' which are affected by interest rates which it controls.[125] While broader government oversight of financial firms is clearly in order, the role of the Fed in monetary policy is important. Widening the range of stakeholders with an interest in capturing Fed policy not only creates conflicts of interest but also bears the serious ramifications of an increasingly politicized monetary policy.[126] As the main agent of policy response to the crisis until September 2008, the Fed focused on its legal mandate as lender of last resort and protector of banks against collapse.

The American case illustrates the multiple roles of informational asymmetry in generating the financial crisis. A decades-long policy of subsidizing low-income housing off-balance sheet culminated in a real estate asset bubble, with taxpayers ultimately liable when the bubble burst. This hidden subsidy, paid only in the event of market failure, fueled the bubble by making the real estate and associated securities markets appear artificially profitable through the discount borrowing available to Fannie and Freddie. The financial industry's political influence allowed private firms to enter the subprime market on a roughly equal footing to the GSE's and fuel this bubble by carrying assets and liabilities off-balance sheet. This was overlooked by government regulators eager to end the recession of 2000-2001, and amplified by the associated long period of low interest rates from 2001-2004.

The unregulated 'shadow banking' sector in over-the-counter securities meant that once underlying asset values began to fall, the opacity of counterparty risk led all financial institutions to restrict lending regardless of the quality of potential borrowers. Finally, the collapse of Lehman Brothers and the vagueness of the initial response in the form of TARP exacerbated this systemic uncertainty, sending financial markets into a tailspin, which spread globally through transnational financial networks. Failures occurred on the part of regulators, legislators, corporate leadership, and individual borrowers who could not afford their mortgages in the long term. However, it was the lack of systemic

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[125] Kevin Corder, "The Federal Reserve System and the Credit Crisis," *Public Administration Review* (July-August, 2009): 628.
[126] Corder, "The Federal Reserve System and the Credit Crisis," 629.

informational transparency which encouraged each of these actors to pursue short-term advantage while assuming the others were acting in good faith. The American case illustrates that monetary and fiscal stimulus are useful policy tools for combating recession. The scale and financial nature of the crisis, however, required additional tools in the form of financial interventions to subdue market fears of contagion and systemic risk. The rapid deregulation, consolidation, and growth of the financial sector was the necessary condition for generating the systemic risk which induced the crisis in the first place.

3 ICELAND

3.1 Introduction

Iceland represents an extreme example of how deregulation and financial innovation can lead to systemic risks "which may seem obvious after they occur but can have devastating effects on nations in which policy makers are still in the learning process."[127] During his fourteen-year period in office from 1991-2004, Prime Minister David Oddsson's government pursued a strongly neoliberal program of economic deregulation and privatization. Despite generating a large trade deficit and increasing foreign debt, these reforms were met with both domestic and international approval as a means of stimulating rapid economic growth. In 2007 Iceland's average annual income was 1.6 times that in the US at $70,000, studies showed Icelanders to be the happiest people in the world, and the Icelandic government tied with New Zealand and Finland as the world's least corrupt public administration.[128] Icelandic stock market values had increased by a factor of nine from 2001 to 2007, and the current account deficit was the highest in the world at 24% of GDP. Moreover, Iceland's three main banks had increased their asset values by almost nine times total GDP, far outpacing the Central Bank's ability to act as a lender of last resort.[129]

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[127] Marthinsen, "Four Paradoxes of the 2008-2009 Economic and Financial Crisis," 65.
[128] Robert Wade, "Iceland as Icarus," *Challenge* 52 no. 3 (2009): 6.
[129] Wade, "Iceland as Icarus," 6.

The IMF, along with foreign and domestic economists, had issued warnings that this was an unsustainable model. However Iceland's finance ministry, Central Bank (CBI), and Financial Supervisory Authority (FSA) allowed citizens to continue to borrow to excess. The government, along with the Chamber of Commerce, touted Iceland as a successful exception to the rules of fiscal and monetary prudence.[130] By the end of 2008 the country's three big banks had collapsed, along with the currency, and been taken over by the government. Iceland's financial meltdown was the most severe and complete of any Western country in the global financial crisis.[131] In January 2009, Iceland's government became the first to resign as a result of the global financial crisis.[132]

Iceland's Conservative party largely blamed the crisis on exogenous factors stemming from the American financial meltdown and, to a lesser extent, its repercussions in Britain. However it has been argued that the extreme form of leveraging by Icelandic bankers, and concomitant failure of Iceland's financial regulators, made a meltdown likely to occur in the face of "any of many events."[133] Iceland's three main banks were allowed to grow far larger than the capacity of the Central Bank to act as lender of last resort, or for Iceland's tiny economy and tax base to allow their recapitalization in the case of emergency. This occurred as the banks were deregulated and their new managers turned their traditional role as savings and loan institutions into a capital base for leveraged, speculative investment.[134] Iceland's case thus also demonstrates the role of lax regulatory oversight in allowing the buildup of systemic risk. It also demonstrates the procyclical nature of bank failures in driving market panic when the government is unwilling, or in the Icelandic case unable, to intervene to stabilize the financial sector. This case also shows how monetary and fiscal policy responses are constrained by the size of financial crisis in proportion to the economy as a whole.

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[130] Wade, "Iceland as Icarus," 7.
[131] Throstur Olaf Sigurjonsson and Mar Wolfgang Mixa, "Learning from the 'Worst Behaved': Iceland's Financial Crisis and the Nordic Comparison," *Thunderbird International Business Review* 53 no. 2 (2011): 210.
[132] Wade, "Iceland as Icarus," 7.
[133] Wade, "Iceland as Icarus," 14.
[134] Wade, "Iceland as Icarus," 15.

3.2 Financial Regulation

Upon accession to the European economic area in 1994 and the loosening of restrictions on cross-border economic flows, the Oddsson government began a program of state asset privatization and labour deregulation.[135] In fairness to reformers, Iceland had been a "terminally sick socialist economy" when Oddsson came to power in 1991.[136] Ponderous and inefficient state institutions, a large budget deficit, and high inflation had hobbled Iceland's economy through the 1980's. Beginning in 1998, the two large public banks were privatized in a process closed to foreign bidders, which saw Landsbanki acquired mainly by major figures in the conservative (Independence) party. The second main bank, Kaupthing, was allocated to prominent members of Independence's coalition partner, the Centre Party.[137] Iceland's third major bank, Glitnir, was later created from the merger of several smaller banks and dominated by private business interests with little affiliation with the traditional ruling parties. The new owners of these three banks also set up private equity companies which purchased further holdings in the banks. Iceland's financial system was now intensely concentrated, directed by a handful of politically connected owners with little "experience in national, let alone international, finance."[138]

The privatization of Iceland's banks transformed executive compensation policy into "an aggressive investment banking-style incentive system," which encouraged greater risk-taking.[139] Icelandic bank owners and management undertook a deliberate policy of borrowing from their own banks to purchase shares in their own, and their competitors', institutions in order to drive up both firms' share prices without any actual added capital.[140] From 2003 all three major banks began acquiring financial services firms in Scandinavia and Northern Europe. Overseas proxy companies were also established in places like Luxembourg and the British Virgin Islands to further purchase shares in

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[135] Robert Wade and Silla Sigurgeirsdottir, "Lessons from Iceland," *New Left Review* 65 (2010): 12.
[136] Richard Middleton, "Iceland: Ruined By Freedom," *Spectator Business* 7 (2008): 26.
[137] Wade and sigurgeirsdottir, "Lessons from Iceland,"12.
[138] Wade and sigurgeirsdottir, "Lessons from Iceland,"12; Sigurjonsson and Mixa, 211.
[139] Sigurjonnson and Mixa, 211.
[140] Wade and sigurgeirsdottir, "Lessons from Iceland,"13.

Icelandic banks. By the end of 2007 Icelandic banking firms owned 56 "overseas operating units" in 21 countries.[141]

Before the 1990's, Iceland was characterised by extensive state intervention in the economy. Commercial banks especially were typically aligned with one of the two main political parties: the Conservative (Independence) Party, which generally represented urban commercial and fishing interests, and; the smaller Centre Party, representing the countryside and cooperatives.[142] During privatization in the 1990's and 2000's the main banks were "bought by friends of the main parties, with no experience of modern banking. No foreign ownership was sought."[143] Iceland's lax financial regulations helped generate both the country's economic boom and the eventual meltdown. Iceland's regulators in fact had little specialized knowledge of international banking, and over time the government came to rely on the banks themselves for economic information.[144]

Low taxes and weak oversight by the FSA both fueled profits and encouraged their use for further speculation. Capital reserve levels required by the Central Bank were lowered during the boom of the early 2000's. After the crisis, it would become known that the Central Bank maintained these low requirements in response to pressure from the banks themselves.[145] The private equity companies with which the banks did business (and by which they were eventually largely owned) also played a serious role. Grouped into holding companies with just a few owners, these investment firms bought shares from the main banks at inflated prices using only the shares themselves as collateral. Through these "dubious and possibly fraudulent activities," this "new capital" would appear to strengthen both firms' balance sheets.[146]

While banks' occasionally bordered on fraud, their activities were for the most part legal. The wider systemic failure thus not only resulted from the actions of bankers but from the

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[141] Hine and Ashman, "Iceland's Banking Sector and the Political Economy of Crisis," 552.
[142] Wade, "Iceland as Icarus," 10.
[143] Wade, "Iceland as Icarus," 10.
[144] Wade and sigurgeirsdottir, "Lessons from Iceland,"8.
[145] Wade, "Iceland as Icarus," 19.
[146] Wade, "Iceland as Icarus," 19.

inaction of regulators at the FSA and Central Bank. In fairness, the FSA was designed to manage retail banking and was under-resourced and understaffed considering the growing challenges it faced. The regulator did publish some criticisms of cross-holdings, lack of transparency, and other issues through 2006-2007. What actions the FSA did undertake were generally stifled through either political channels or private litigation.[147] Regulatory capture was "endemic" to the financial system: the prospectus for Icesave's Dutch opening contained attestations to the strength of Iceland's financial system by the Chairman of the FSA himself.[148] Hobbled as it was by logistical and political barriers, the FSA simply did not make a genuine effort to determine the accuracy of balance sheets at major banks and equity firms.[149] Financial institution stress tests, passed by all three major Icelandic banks just weeks prior to the collapse, "did not account for vulnerability to either a liquidity or currency crisis."[150]

The chair of the board of governors at the Central Bank of Iceland (CBI) at this time was none other than David Oddsson, the former prime minister who had overseen the privatization of Icelandic banking in his tenure as prime minister from 1991-2004. Known for being domineering and manipulative, Oddsson was appointed governor by his protégé, Prime Minister Geir Haarde, who would eventually resign along with his government in January, 2009.[151] Oddsson "has not lived outside Iceland, has no background in monetary economics, and understands little about international finance."[152] Legislation passed in 2000 reduced the supervisory role of the Central Bank: it would now merely set interest rates while banks were allowed to finance operations through overseas borrowing rather than deposits.[153]

The few public bodies critical of Iceland's financial governance were not listened to, and in some cases silenced. In 2002 Oddsson dismantled the National Economic Institute,

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[147] Hine and Ashman, "Iceland's Banking Sector and the Political Economy of Crisis," 555.
[148] Wade and sigurgeirsdottir, "Lessons from Iceland,"20.
[149] Wade, "Iceland as Icarus," 20.
[150] Sigurjonnson and Mixa, 212.
[151] Wade, "Iceland as Icarus," 23.
[152] Wade, "Iceland as Icarus," 23.
[153] Middleton, "Iceland: Ruined By Freedom," 27.

which reported directly to the Prime Minister's office, after it published reports of drastic economic mismanagement.[154] The University of Iceland was pressured to fund its Economic and Social Research Centres privately, and these bodies published much less critical national studies once they depended on commissioned research. It has also been suggested that Iceland's public data agency, Statistics Iceland, was bullied into downplaying information on growing wealth and income inequality.[155] Regulatory capture and corruption thus figure prominently into the narrative of Iceland's financial expansion and subsequent implosion.

3.3 Housing and Financial Asset Bubble

In 2004 Iceland's banks began offering mortgages at rates competitive with the government-run mortgage provider, the Housing Financing Fund (HFF). This is similar to the way private American financial firms joined Fannie and Freddie in the sub-prime mortgage business at the same time. Deregulation combined with the accumulation of foreign exchange reserves by the CBI provided a liquidity surplus which the banks put towards asset acquisitions and growth.[156] Kaupthing was the first bank to offer fixed-rate mortgages in mid-2004. The other major banks began to do likewise, and within a year Iceland's private banking sector increased its market share of home mortgages from 5% to 43%.[157] As in the United States, the private banks' lower offered rates prompted a surge in demand from first-time homebuyers and existing home-buyers wishing to refinance. Combined with a general increase in economic growth and purchasing power, this real estate boom drove housing prices upward.[158]

In addition to simply borrowing too much, Iceland's banks and their cross-owned equity firms often pursued "ill-considered, overpriced, and sometimes dubious, acquisitions."[159]

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[154] Wade and sigurgeirsdottir, "Lessons from Iceland,"27.
[155] Wade and sigurgeirsdottir, "Lessons from Iceland,"28.
[156] Steve Bergsman, "Iceland's Meltdown," *Mortgage Banking* 72 vol. 1 (2011): 78-79
[157] Bergsman, "Iceland's Meltdown," 79.
[158] According to various estimates, housing prices in Reykjavik increased between 26-38% in the period 2004-2005 and as much as 65% from 2005-2006. Bergsman, "Iceland's Meltdown," 79.
[159] Hine and Ashman, "Iceland's Banking Sector and the Political Economy of Crisis," 553.

Often acquired for prestige, many loss-generating businesses continued to be funded by Icelandic banks and equity companies to avoid the losses and potential bank run their bankruptcies would induce.[160] Individual households were also encouraged to borrow beyond their means to a degree that has been characterized as "predatory lending," and were also encouraged to convert debt held into lower-interest foreign currencies.[161] The three big banks' expanding balance sheets, worth over 800% of GDP by the end of 2007[162], also translated into higher and higher remunerations for owners and management. Much of this in turn was channeled into financial contributions to the governing political parties.[163]

In July 2006 an IMF report warned that the rapid expansion of Icelandic banks' assets and liabilities was a cause for concern and a source of vulnerability, by which time government deficits had already quadrupled to 20% of GDP since 2003.[164] Fitch downgraded Iceland's outlook from stable to negative in February 2006, triggering a "mini-crisis" in which the Króna lost roughly 25% of its value.[165] This caused bank liabilities, many of which were denominated in foreign currencies, to increase. At this point "the sustainability of foreign currency debts became a 'public' problem, the stock market fell and business defaults rose."[166] The raising of interest rates by the Japanese Central Bank in July 2006 hit Icelandic financial firms hard, disrupting the international "carry trade" business of borrowing low-interest yen to invest in higher-yield currencies such as the Króna. Iceland's currency fell 12% against the US dollar while Icelandic stock markets lost 20% of their value.[167]

Iceland's financial and political elite chided foreign critics. The Central Bank borrowed money in order to double foreign exchange reserves. The Chamber of commerce

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[160] Hine and Ashman, "Iceland's Banking Sector and the Political Economy of Crisis," 554.
[161] Wade and sigurgeirsdottir, "Lessons from Iceland,"14.
[162] Worth just under 100% of GDP in 2000, the three banks' total assets were valued at roughly 1000% of GDP when the crisis struck in 2008. Middleton, "Iceland: Ruined By Freedom," 27.
[163] Wade and sigurgeirsdottir, "Lessons from Iceland,"14-15.
[164] Wade and sigurgeirsdottir, "Lessons from Iceland,"15.
[165] Sigurjonsson and Mixa, 211.
[166] Wade and sigurgeirsdottir, "Lessons from Iceland,"16.
[167] Middleton, "Iceland: Ruined By Freedom," 27.

commissioned reports from leading American and British economists, who were paid handsomely for their healthy prognoses of Iceland's financial state.[168] By autumn Iceland's banks were having difficulty raising money by selling bonds, as international markets became wary of their rapidly expanding balance sheets.[169]

Rather than take these financing problems as a warning the banks turned to international money markets to raise capital, opening internet accounts and offering high-interest retail banking to British and Dutch depositors. Because these operations were opened as branches and not subsidiaries, they were subject to regulation by the FSA rather than by British or Dutch authorities. Host country regulators only concerned themselves with branches' liquid capital, not their assets, while the FSA virtually ignored these offshore operations "even as they incurred giant liabilities against the Icelandic deposit insurance scheme and ultimately against Icelandic taxpayers."[170] Over a period of 18 months, Landsbanki and Kaupthing collected a combined £4.8 billion and €2.9 billion from British and Dutch investors through their Icesave and Edge internet deposit services.[171]

As in the US, the Icelandic banks' rapidly-growing loans and assets were financed through short-term debt. Moreover, the high interest rate set by the Central Bank both attracted foreign investment while driving citizens to borrow from overseas institutions in lower-interest denominations. Foreign investors benefited not only from the rapid inflation of the Króna, and counted on the fact that interest rates were unlikely to be lowered as the resulting depreciation "would raise the already heavy burden of foreign currency debt of households and firms."[172] Short-term foreign debt outweighed the foreign exchange reserves, with which it might be paid, by a factor of 10 by 2007.[173] By

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[168] Wade and sigurgeirsdottir, "Lessons from Iceland,"16-17.
[169] Wade, "Iceland as Icarus," 18.
[170] Wade, "Iceland as Icarus," 18.
[171] Sigurjonsson and Mixa, 211; The British figure has been place as high as £8 billion by Hine and Ashman. Hine and Ashman, "Iceland's Banking Sector and the Political Economy of Crisis," 554.
[172] Wade, "Iceland as Icarus," 16.
[173] Wade, "Iceland as Icarus," 17.

this time household debt equaled 103% of GDP, while gross foreign debt stood between 700-800% of GDP.[174]

Despite the positive public relations, even the senior levels of Iceland's government were growing concerned at what lay behind the banks' balance sheets. In mid-2007 an ad-hoc coordination group was formed to facilitate information sharing and contingency planning should a financial crisis erupt. The group consisted of "officials from the Prime Minister's Office, the Ministry of Finance, the Ministry of Banking and Commerce, the Central Bank and the Financial Supervisory Authority of Iceland (FME)."[175] The group proved superficial, providing little real planning and reporting so ineffectively that government ministers were later able to avoid legal responsibility by pleading ignorance of the severity of the danger.[176]

After the mini-crisis of 2006, Icelandic banks sought new forms of short-term financing for their liabilities. One was the creation high-interest retail banking internet services catering to foreign depositors. Landsbanki pioneered this move with the opening of Icesave, which opened in the UK in 2006 and the Netherlands in 2008. This was immensely successful, attracting deposits from even public and academic institutions in the UK, and generating the necessary capital for Landsbanki to refinance its liabilities while acquiring even more assets.[177] In response to Icesave's manifest success, Glitnir and Kaupthing followed suit by setting up their own internet deposit services.

A second means of refinancing was through a program by which the three national banks issued debt securities to smaller regional banks, which then borrowed against these securities from the Central Bank without needing to provide additional collateral. The smaller banks would then use these loans in turn to lend to the "Big Three," allowing them to indirectly borrow beyond even the generous limits imposed by the Central

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[174] Wade, "Iceland as Icarus," 16.
[175] The FME is elsewhere referred to as the FSA. Wade and sigurgeirsdottir, "Lessons from Iceland,"18.
[176] Wade and sigurgeirsdottir, "Lessons from Iceland,"19.
[177] Wade and sigurgeirsdottir, "Lessons from Iceland,"19.

Bank.[178] They also set up subsidiaries in Luxembourg which performed a similar function by borrowing from the Central Bank of Luxembourg and the European Central Bank. That Iceland's banks were provided loans using other Icelandic banks' debts as collateral owes as much to a lack of prudential oversight by the Icelandic and continental Central Banks.[179] This is especially true as throughout 2008 the Haarde government, and the Icelandic Central Bank under Oddsson, ignored alternately stern and desperate warnings from the IMF, British, and Scandinavian Central Banks to scale down the banking system.[180] More so than in the US case, the hubris of Icelandic bankers and borrowers can be attributed to inexperience. However the small, closed, and corrupt nature of Iceland's political and financial elite allowed them to ignore the warnings of those more knowledgeable than themselves.

3.4 Financial Crisis

The financial crisis hit Iceland along with many other economies following the collapse of Lehman Brothers' at the end of September 2008.[181] The revelation that a major financial firm might be allowed to fail without government intervention froze interbank and international money markets, evaporating liquidity and making assets "untradeable."[182] In the ensuing market panic, investors fled Iceland's vulnerable and overleveraged financial system *en masse.* As short-run funding dried up, Iceland's banks quickly slid into insolvency. Faced with a scheduled €750 million payment on October 15, Glitnir requested an emergency loan from the Central Bank. This request was rejected and was met instead with an offer to inject €600 million into the bank in exchange for a 75% ownership stake.[183] Glitnir was taken over by the government on October 6,

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[178] Wade and sigurgeirsdottir, "Lessons from Iceland,"20.
[179] Wade and sigurgeirsdottir, "Lessons from Iceland,"20.
[180] Wade and sigurgeirsdottir, "Lessons from Iceland,"21.
[181] Wade and sigurgeirsdottir, "Lessons from Iceland,"5.
[182] Sigurjonsson and Mixa, 212.
[183] Tryggvi Thor Herbertsson, "Collapse of a Financial System: An Icelandic Saga," in *Lessons from the Financial Crisis: Causes, Consequences, and Our Economic Future*, ed. Robert W. Kolb (Hoboken NJ: John Wiley & Sons, 2010), 545.

Landsbanki on October 7. Despite an 80 billion ISK loan from the government, Kaupthing finally collapsed on October 9.[184]

Iceland's stock markets lost roughly 98% of their value in 2008. In September of that year the government refused to bail out, and instead took over, Glitnir bank. Within a week the other two major Icelandic banks, Landsbanki and Kaupthing, also collapsed and had to be nationalised.[185] The Icelandic Króna (ISK) had fallen from 1/70 euro to 1/190 euro by November 2008, and average income fell from 1.6 to 0.8 times that of the US from 2007 to February 2009. The IMF offered a $2.5 billion loan to help stabilize the Króna, an offer matched by other Nordic banks.[186] Unlike the much larger US and UK, Iceland's bank losses far outweighed the government's ability to absorb the cost of bailing out private institutions.

On September 29, 2008 Glitnir appealed for Central Bank assistance, and Oddsson agreed to buy 75% of Glitnir's shares in an attempt to restore confidence. Rather than boost confidence in the bank, this seriously damaged confidence in the Iceland itself as "the country's rating plunged, and credit lines were withdrawn from Landsbanki and Kaupthing."[187] At this point Oddsson attempted to peg the Króna while cutting interest rates. The peg lasted only a few hours, after which point the Króna's value plummeted. On October 8 UK Prime Minister Gordon Brown froze Landsbanki's UK assets under anti-terrorism laws. Soon the IMF stepped in, offering a conditional loan of $2.1 billion to stabilize the Króna, to which the Nordic Central Banks added a conditional loan of $2.5 billion.[188] Iceland's failed experiment with financial liberalization ended essentially in its placement in conservatorship under its largest trading partners and the IMF.

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[184] Sigurjonsson and Mixa, 212.
[185] Wade, "Iceland as Icarus," 12.
[186] Wade, "Iceland as Icarus," 12.
[187] Wade and sigurgeirsdottir, "Lessons from Iceland,"21.
[188] Wade and sigurgeirsdottir, "Lessons from Iceland,"22.

3.5 Policy Response: Monetary Policy

After the collapse of Glitnir, David Oddsson made televised statements renouncing any government responsibility to repay foreign depositors in Icelandic banks which further escalated international panic. Oddsson "then announced that Russia would provide a large loan, which the Russian government promptly denied."[189] At this point Oddsson announced that the Króna would be pegged to the euro, without even consulting his own chief economist. This policy lasted less than a day, as Iceland had almost no foreign exchange reserves left and no capital controls.[190] The short-lived currency peg did, however, allow government and financial insiders "to spirit their money out of the Króna at a much more favourable rate than they would get later."[191] As the crisis became apparent, Oddsson's erratic responses did little to calm markets. The Central Bank cut the interest rate to 12% on October 7, before raising it to 18% thirteen days later.[192]

Beyond the influence of Oddsson himself, it is also true that Iceland's Central Bank was largely insulated from those of other countries, even Nordic countries. Central Bank management and staff had few personal connections to their foreign counterparts. Most were trained in Iceland or the US, and many harboured a combination of nationalistic pride and insecurity in dealing with their larger institutional cousins in Europe.[193] Management was thus largely unaware "that Icelandic banking had developed a bad reputation in the other Nordic countries."[194] When the US and Nordic Central Banks concluded a currency swap agreement in September, 2008, Icelanders had been shocked to be excluded.

The small and isolated nature of Iceland's political and economic authorities prevented any real international coordination either to prevent or respond to the financial meltdown.

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[189] Wade, "Iceland as Icarus," 23.
[190] Wade, "Iceland as Icarus," 24.
[191] Wade and sigurgeirsdottir, "Lessons from Iceland,"22.
[192] Wade, "Iceland as Icarus," 24.
[193] Wade, "Iceland as Icarus," 24.
[194] Wade, "Iceland as Icarus," 24.

While the monetary response was erratic and did not help matters, the scale of the crisis was such that no domestic response could realistically have prevented a complete meltdown. Since defaulting on its debts, Iceland's Central Bank has lowered interest rates to under 6%, maintaining the lower value of the currency and helping to renew economic growth.[195] This resumption of growth has been bolstered by high global commodity prices.

3.6 Policy Response: Fiscal Policy

The period of privatization and deregulation also saw major tax cuts on business and financial earnings, however taxes on low- and medium-income saw major increases. This shift in the tax burden saw government revenues increase from 39% to 49% of GDP from 1995-2006, which was "wrongly hailed as proof of the proposition dear to supply-side economics that tax cuts on business increase tax revenues."[196] This shift in the tax burden not only encouraged the rapid growth and overleveraging of firms, it also made government revenues much more dependent on individual households. The financial crisis and currency collapse decimated household finances while increasing unemployment, with associated rises in cost to the state welfare system. Even before the crisis, government deficits had quadrupled to 20% of GDP from 2003-2006.[197] With dwindling revenues and mounting liabilities, Iceland's government had very little room to manoeuvre in terms of fiscal response.

Iceland's government was thus given little choice as to much of the spending it undertook in the aftermath of the meltdown. Much of the IMF loan was conditioned on repayment of the debt generated by Icesave to the Dutch and British governments. This repayment, however, was defeated by Iceland's citizens in a referendum. Iceland's recent successful bond issue in June 2011 seems to have somewhat disproved the IMF's threat that, should Iceland default on these British and Dutch deposits, it would never again be able to

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[195] CIA World Factbook, "Iceland," last updated April 23, 2012. https://www.cia.gov/library/publications/the-world-factbook/geos/ic.html.
[196] Wade, "Iceland as Icarus," 11.
[197] Wade and sigurgeirsdottir, "Lessons from Iceland,"15.

borrow internationally.[198] Icelanders were also expected to repay the exorbitant loan taken out by the Central Bank in 2006. The now insolvent Central Bank was recapitalized using public funds equivalent to 18% of GDP, necessitating "cuts in public spending on health, education and infrastructure."[199]

3.7 Analysis

Iceland's meltdown demonstrates the need for strengthening cross-border banking oversight and deposit insurance. Loopholes in EU deposit insurance legislation were exposed through the exploitation of cross-border accounts and the different treatment of branches and subsidiaries.[200] This reiterates the importance of informational transparency, and coordination among financial firms and regulators at the national and international level, in preventing arbitrage and the buildup of systemic risk. Wade also argues that the largest commercial banks should continue to be publicly owned post-crisis due to the "large public-good element" in their function.[201]

The case of Iceland demonstrates an abdication of responsibility by individuals and the importance of accountability. The Special Investigation Commission on the causes of the crisis report of April 2010 accused ministers in government (including Haarde), former Central Bank governors, and the director of the FSA of gross negligence.[202] The Permanent Secretary at the Ministry of Finance was also fired for selling his holdings in one of the major banks immediately before the collapse.[203] The combination of banker malfeasance and regulatory negligence in Iceland has close parallels in the financial crisis narratives of the US and UK. Iceland's meltdown had stronger repercussions for the country's population simply because the financial bubble was so much larger in proportion to the overall economy.

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[198] Bergsman, "Iceland's Meltdown," 77.
[199] Wade and sigurgeirsdottir, "Lessons from Iceland,"24.
[200] Wade, "Iceland as Icarus," 32.
[201] Wade, "Iceland as Icarus," 32.
[202] Wade and sigurgeirsdottir, "Lessons from Iceland,"26.
[203] Wade and sigurgeirsdottir, "Lessons from Iceland,"26.

The scale of the financial crisis relative to Iceland's economy precluded effective monetary or fiscal policy responses – Icelanders' only choice was to start over. Finally, Iceland's financial collapse demonstrates the drastic need for informational transparency in markets. When the financial bubble began to grow in 2003-2004 critical reports were being published even by the Central Bank, at which point Oddsson was put in charge. From 2006 to 2008 foreign criticism, especially from the IMF, grew muted just as the situation was becoming most volatile. This was based on the belief that "the situation had become so fragile that to speak of it might trigger a run on the banks which might otherwise be averted."[204]

Despite the essential freeze in government economic policy and the reformation of Iceland's banks back into local retail operations (using the remaining 'good' assets from the three former large banks), recovery seems to have begun. Unemployment has stabilized around 6% from its average high of 8% from 2009-2010; GDP growth returned to above 2% in 2011 from a low of -7% in 2009 and a still-unpleasant -4% in 2010, and; inflation sank to about 2.8% in 2011, down from 5% in 2010 and a high of 13% in 2008.[205] Iceland seems to have avoided serious punishment for defaulting on its creditors, and it has been suggested that this could provide a model for other indebted European countries. There are problems with this, however.

The first problem is that the indebted Eurozone economies do not have their own currencies, and so their banks' collapse will not allow a similar fall in exchange rates to stimulate exports as has occurred in Iceland.[206] Furthermore, Iceland's status as a small peripheral economy means that it's default, while upsetting some sovereign investors such as the British and Dutch, did not significantly contribute to global market instability as might a default by the US or UK. Even smaller eurozone countries such as Greece, should they be forced to leave the shared currency in the event of default, could trigger an

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[204] Wade and sigurgeirsdottir, "Lessons from Iceland," 28.
[205] World Bank, "World Databank," Accessed April 26, 2012. http://databank.worldbank.org/ddp/editReport?REQUEST_SOURCE=search&CNO=2&country=USA&series=&period=; CIA World Factbook, "Iceland."
[206] Justin Rowlatt, "Could Iceland be a Model for Debt-Ridden Europe?" *BBC News*, July 30, 2011, accessed May 6, 2012. http://news.bbc.co.uk/2/hi/programmes/from_our_own_correspondent/9550667.stm.

unraveling of the euro with drastic global consequences. To draw a parallel between countries and private financial institutions, Iceland was largely able to default on its obligations because, unlike the other case studies in this paper, it was not too big to fail. Finally, Icelanders may have only postponed their reckoning. Households are still highly indebted, especially those whose internationally-denominated loans increased as the exchange rate fell. Should defaults on these debts increase, as seems likely, Iceland could well face another debt crisis.[207]

Iceland's total financial collapse left little leeway for government monetary or fiscal policy to mitigate the damage. The short-sighted attempt at a currency peg and fluctuating interest rates at the CBI initially added to the panicked flight of capital out of the country. Shortly thereafter the Central Bank came under the close oversight of the IMF, which placed tight capital controls on the country's economy and took over most policy decisions at the Central Bank. Capital flight from the Króna, and the lowering of interest rates post-crisis, have allowed a devaluation of the currency and a return to export-led growth. This underlines the usefulness of monetary expansion to combat event the worst economic contractions. Fiscal policy was also largely restricted in the wake of the crisis due to the cost of recapitalizing the central bank. Reduced revenues through the recession which followed the crisis and the attendant rise in social welfare costs added to the fiscal restrictions facing Iceland's government.

The government decision not to bail out the banks represents a major diversion from the paths taken by other states, although it was largely predetermined by the incapacity of Iceland's small economy and tax base to afford such action. Moreover, the default on international creditors is still a point of tension in relations with countries such as the UK, and may yet create serious repercussions for the Icelandic economy. The apparently (relatively) positive effects of Iceland's monetary and fiscal responses are thus still uncertain, and at any rate the responses themselves were likely only feasible due to Iceland's small and peripheral economic position. In terms of the onset of crisis, monetary and fiscal profligacy encouraged the growth of asset bubbles. The initial

[207] Rowlatt, "Could Iceland be a Model for Debt-Ridden Europe?"

deregulation and opening of Iceland's financial system, especially the lifting of restrictions separating retail and investment banking, were necessary conditions which allowed these imbalances in the first place. The patronage, inexperience, concentrated ownership, and public-private collusion in Iceland's financial system used the space allowed by deregulation to fuel Iceland's unsustainable financial expansion – and eventual collapse.

4 UNITED KINGDOM

Considering it's vulnerabilities as a global financial centre, the UK economy has been argued by some to have fared relatively well in that it performed "better than most observers expected,"[208] roughly on par with other large industrialized economies.[209] Despite exceeding worst-case scenarios, the UK is still in difficult economic shape: GDP growth in 2011 averaged a meagre 1.1%, down from 1.4% in 2010, and fell back into recession in Q1 2012; unemployment has continued to rise, from 7.8% in 2010 to 7.9% in 2011, and; the public budget deficit in 2011 was estimated at 8.8% of GDP while gross public debt stood at 79.5% of GDP, up from 76.1% in 2010.[210]

Through the mid-2000's the economy of the United Kingdom appeared very stable. Unemployment was holding at around 5%, the lowest rate since the 1970's. GDP growth was historically average and inflation maintained near the 2% target.[211] While an inflationary boom did not seem likely, there was concern about the rapid rise in house prices, the similarly rapid expansion of credit, and the growth of the financial system in general. The growing interdependence of global finance and the potentially increased vulnerability of the UK and other economies to foreign financial shocks, however, had not yet become a widely held source of concern.[212] In terms of financial linkages, the UK

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[208] Andrew Sentance, Mark P. Taylor and Tomasz Wieladek, "How the UK Economy Weathered the Financial Storm," *Journal of International Money and Finance* 31 (2012): 110.
[209] Sentance et al., "How the UK Economy Weathered the Financial Storm," 108.
[210] CIA World Factbook, "United Kingdom," last updated April 25, 2012. https://www.cia.gov/library/publications/the-world-factbook/geos/uk.html.
[211] Sentance et al., "How the UK Economy Weathered the Financial Storm," 104.
[212] Sentance et al., "How the UK Economy Weathered the Financial Storm," 105.

was a central nexus in global banking. Financial and business services accounted for 30% of GDP in the UK.[213] Thus, "despite low public debt, the government had therefore large implicit banking sector liabilities like Iceland, Ireland and Switzerland.[214] As elsewhere, the run-up to the crisis saw real estate lending take on a much greater proportion of banks' balance sheets. This created the risk that a decline in property values could have considerable effects on banks solvency.[215]

The UK case reiterates the growing themes of monetary expansion and financial interventions to stabilize the banking sector during a financial crisis. The lower UK growth following the pursuit of spending cuts, as compared with the US, also suggests that fiscal stimulus is preferable during a recession. The procyclicality of austerity in prolonging recessions gains credence here, and reinforces the Keynesian belief that debt repayment is most appropriate once economic growth and private demand have resumed. As elsewhere, an effective regulatory regime ensuring risk transparency is seen as crucial in preventing the buildup of systemic risk which triggered the financial crisis.

4.1 Financial Regulation

The rapid growth of debt-to-deposit ratios in UK banks in the early 2000's were a result of weakening regulation and the rise of securitisation.[216] Regulatory oversight of British banks in the lead-up to the crisis has been criticized along lines that are by now familiar. In the case of the UK, such criticism has emphasized a defective deposit insurance regime, the lack of an adequate legal framework for the resolution of insolvent banks, and (as in the United States) lax regulatory oversight.[217] Northern Rock was the first major bank failure in the UK, a 'canary in the coal mine' warning of the overall vulnerability of

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[213] Sentance et al., "How the UK Economy Weathered the Financial Storm," 109.
[214] Sentance et al., "How the UK Economy Weathered the Financial Storm," 110.
[215] Sentance et al., "How the UK Economy Weathered the Financial Storm," 109.
[216] Adrian Buckley, *Financial Crisis: Causes, Context and Consequences* (Harlow, UK: Pearson Education Ltd., 2011), 205.
[217] Robert Eisenbeis and George G. Kaufman, "The Demise of the United Kingdom's Northern Rock and Large U.S. Financial Institutions," in *Lessons from the Financial Crisis: Causes, Consequences, and Our Economic Future*, ed. Robert W. Kolb (Hoboken NJ: John Wiley & Sons, 2010), 345; MacNeil, "The Trajectory of Regulatory Reform in the UK," 495.

the financial sector, similar to Bear Stearns in the US. The Financial Services Authority (FSA) failed to properly evaluate Northern Rock's business model, its rapid growth, and their associated risks. It also failed to communicate what concerns it did have to the Northern Rock board.[218] Similar criticisms regarding weak regulatory oversight include insufficient capital requirements (especially in trading), regulations on liquidity, and controls on executive bonuses.[219]

The FSA review of financial regulation published in March, 2009 (the "Turner Review") recommended: extended jurisdiction of bank regulation, including oversight of capital adequacy and credit rating agencies; codified remuneration frameworks to discourage excessive risk-taking; centralized clearance of CDS trading to improve systemic transparency, and; closer coordination and regulation of cross-border banking.[220] The British regulatory regime failed to ensure capital buffers kept up with the expansion of credit, gradually leading to an erosion of sufficient liquidity in individual institutions and the financial system as a whole.[221] As in the US there is strong consensus on the need for change in financial regulation.[222] Also like the United States, the regulatory failure in the UK is not solely one of insufficient regulatory legislation, but also of the executors of the UK regulatory regime to exercise their existing legal powers.

The regulatory shortcomings in the UK which contributed to the financial crisis reflect not simply a failure of the formal regulatory framework, but a gradually-developed laxity in regulatory culture. British regulatory authorities are in fact mandated with broad powers.[223] The poor performance of the UK's tripartite regulatory regime - comprising the FSA, the Bank of England, and the Treasury – thus has as much to do with performance accountability as it does with an effective legal regulatory framework.

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[218] Buckley, 202.
[219] Adrian Kay, "UK Monetary Policy Change During the Financial Crisis: Paradigms, Spillovers, and Goal Co-ordination," *Journal of Public Policy* 31 no. 2 (2011): 156.
[220] Goddard et al., "The Crisis in UK Banking," 282.
[221] Iain MacNeil, "The Trajectory of Regulatory Reform in the UK in the wake of the Financial Crisis," *European Business Organization Law Review* 11 (2010): 487.
[222] Kay, "UK Monetary Policy Change," 148.
[223] MacNeil, "The Trajectory of Regulatory Reform in the UK," 489.

From 1997 to 2010, the Treasury has been responsible for overall regulatory policy framework, the Bank of England for financial stability, and the FSA for prudential supervision.[224] The Bank of England and the Financial Services Authority report to Parliament and are subject to scrutiny by the Treasury Select Committee.

In June 2010 the UK Chancellor of the Exchequer announced reforms intended to couple monetary policy with its private counterpart in the financial industry. These reforms would abolish the shared oversight responsibility of the FSA, Bank of England, and UK Treasury as well as dismantle the FSA itself. Under the proposed reforms, the Bank of England will establish a Financial Policy Committee (FPC), chaired by the BoE governor, to conduct macro-prudential analysis and oversight.[225] Since mid-2009, risk premia for UK banks have largely returned to their pre-crisis levels, indicating that expectations regarding British banks' future performance has stabilized. While overall lending among UK banks has not returned to pre-crisis levels, the recovery has in large part been stimulated by the return of lending to businesses, and "the most severe constraints on access to finance were short-lived."[226] It has been argued that government guarantees of financial institutions have "undoubtedly underpinned" the return of confidence to the UK Banking system.[227]

The UK government seems to have taken the lesson that the high debt-to-asset leveraging inherent in financial capitalism requires capital protection on the scale that only governments can access.[228] In exchange for this protection, the UK government is attempting to expand its oversight of financial services. For example, government will now undertake "micro-economic decisions such as regulating speculation in mortgages,"

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[224] MacNeil is careful to point out that the financial stability mandate of the Bank is separate from its monetary policy role, in which it is formally independent of the government. MacNeil, "The Trajectory of Regulatory Reform in the UK," 491.
[225] Kay, "UK Monetary Policy Change," 156; MacNeil, "The Trajectory of Regulatory Reform in the UK," 492.
[226] Sentance et al., "How the UK Economy Weathered the Financial Storm," 113.
[227] Sentance et al., "How the UK Economy Weathered the Financial Storm," 112.
[228] Kay, "UK Monetary Policy Change," 157.

issues which were previously left up to markets.[229] The Supervisory Enhancement Programme is an attempt to change the regulatory model that is more "intrusive and direct" than the "light touch" model unofficially subscribed to prior to the crisis.[230] The Financial Services Bill is currently before Parliament, and is set to move on to the House of Lords after its third reading in the House of Commons on May 22, 2012.[231]

4.2 Housing and Financial Asset Bubble

The failure of Northern Rock in September 2007 was an initial warning of the weaknesses in the UK financial sector. After converting to a stock bank in 1997, Northern Rock had grown from 6% of the UK mortgage market in 1999 to 19% in 2007, with assets doubling from $16 billion to $32 billion from mid-2005 to end-2007.[232] Northern Rock originated mortgages of low credit-quality and packaged them into securities to be resold. In the meantime these mortgages were 'warehoused' and funded through short-term money market liabilities. The risk-prone business model at Northern Rock, which dealt primarily in mortgage loans, depended more heavily on short-term interbank financing than that of most British banks. This business model also saw the bank making larger loans as a proportion of property and borrowers' income, making Northern Rock that much more dependent on the maintenance and continued increase of property values.[233] The run on the bank's funding liabilities, rather than depositor withdrawals, reflects the exposure of UK banks to global liquidity shortages due to their dependence on short-term financing of liabilities. At the time of the crisis' full onset, "roughly 70% of UK banks funding was at less than one-year maturity."[234]

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[229] Kay, "UK Monetary Policy Change," 158.
[230] MacNeil, "The Trajectory of Regulatory Reform in the UK," 497.
[231] UK Parliament, "Bills & Legislation: Financial Services Bill 2010-2012 to 2012-2013," accessed May 21, 2012. http://services.parliament.uk/bills/2010-11/financialservices.html.
[232] Eisenbeis and Kaufman, "The Demise of the United Kingdom's Northern Rock and Large U.S. Financial Institutions," 346.
[233] Buckley, 196-197.
[234] Sentance et al., "How the UK Economy Weathered the Financial Storm," 109.

The UK was hit along with the rest of the financial world by the shutdown of interbank lending in mid-August, 2007. Despite being considered well-run and well-capitalized by the FSA in 2007, by September Northern Rock faced severe difficulty rolling over its short-term financing obligations.[235] On September 13, 2007, news broke that the Bank of England had made a deal to bail out Northern Rock. By the next day depositors and investors were flocking to withdraw their money from Northern Rock in Britain's first bank run since 1866, which only ended when the Chancellor of the Exchequer announced a government guarantee of the bank's deposits.[236] Private and public takeovers were discussed through the winter and in February, 2008 Northern Rock was formally nationalised. The bank's annual report in March would subsequently reveal a £167 million loss.[237]

HBOS is a British banking and insurance company which grew significantly through several mergers from 1995 through 2001, during which time it also became a publicly traded company. Dealing primarily with mortgages, HBOS became an increasingly aggressive consumer lender through the early 2000's, covering roughly half of its liabilities through deposits and the other half through wholesale markets and securitisation, including repackaging mortgages and trading in CDO's and CDF's. By September 2008 HBOS's liabilities outstripped internal revenue by £200 billion and required £20 billion per year to refinance.[238] The Royal Bank of Scotland was an even larger UK bank. RBS was the world's fifth largest bank at its peak, the tenth largest company in the world in 2000. From 2004-2009 it was second largest shareholder in the Bank of China, which itself was the fifth-largest bank in the world by February 2008.[239]

RBS entered the investment banking field in 2000, becoming a dominant player in leveraged finance in the UK and Europe. RBS' Global Banking and Markets division (GBM) made huge profits trading ABS, MBS and investment-grade corporate bonds. In

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[235] Eisenbeis and Kaufman, "The Demise of the United Kingdom's Northern Rock and Large U.S. Financial Institutions," 346.
[236] Goddard et al., "The Crisis in UK Banking," 279.
[237] Buckley, 201.
[238] Buckley, 205.
[239] Buckley, 210.

so doing, RBS was "building significant exposure to the activities that were at the heart of the global banking maelstrom of 2007/8."[240] By March 2007, GBM was the world's second largest issuer of subprime mortgages. Unfortunately for RBS, the financial crisis began to grow just as it was also pursuing an expensive (at £49 billion) and ill-conceived takeover of ABM Amro, the Netherlands' largest bank.[241] British banking closely paralleled the increase in leveraged MBS investment seen in the US and Iceland, with similar results when the market for those securities collapsed.

4.3 Financial Crisis

In 1998 the UK's biggest eight banks lent out less than they held in deposits, whereas by 2008 their loans exceeded deposits by over £500 billion.[242] British Banks' acquired debt was also largely in CDO's which they repackaged into SIV's (their source of rising profits) and resold, leaving them extremely exposed to fluctuations in the US housing market. Through early 2008 weakening house prices and CDS, CDO and MBS ("alphabet soup") markets created worries that asset write-downs might leave banks without sufficient capital.[243] Bank share prices were falling markedly by March, 2008, and in April banks released profit warnings. HBOS was seen as especially exposed to risk which drove away investors. The bank's share price fell from 450 pence in March 2008 to 283 pence by September 12, at which point a run saw it fall to 88 pence in three days.[244]

By April 2008 RBS was facing £5.9 billion in lost value from write-downs in toxic asset values, and attempted to shore up its reserves through rights issues and the selling off of subsidiaries.[245] By the end of the year losses had risen to roughly £20 billion. Even without these write-downs, RBS faced trading losses of £7-8 billion in 2008. Altogether, RBS lost £28 billion in 2008, the largest annual corporate loss in UK history. When these

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[240] Buckley, 211.
[241] Buckley, 211-212.
[242] Buckley, 205.
[243] Goddard et al., "The Crisis in UK Banking," 280.
[244] Buckley, 207.
[245] Buckley, 213; Goddard et al., "The Crisis in UK Banking," 280..

figures were released in January, 2009, RBS shares fell 66% in a single trading day to 10.9p per share. This in itself was a 97% drop from RBS' peak 2008 share price of 354p per share.[246] At the same time official data showed the UK to be in recession for the first time since the early 1990's.[247] These losses help convey a sense of the rapidity and severity of the banking crisis UK, and it had become clear that RBS could not remain viable without government intervention.

4.4 Policy Response: Financial Interventions

The Northern Rock Crisis prompted legislative changes to allow faster intervention and resolution of bank failures, before formal bankruptcy proceedings were initiated.[248] Northern Rock had already been nationalised in February, and in September HBOS was in a similar state of emergency. Lloyds TSB was identified as a preferred takeover partner. Unlike its British contemporaries, Lloyds had focused on its core businesses with a low-risk business model. Lloyds TSB had limited exposure to US subprime ABS markets, a much lower ratio of liabilities to deposits, and in general had "avoided building an investment bank."[249] On September 27, 2008 it was announced that Lloyds would conduct an all-share takeover of HBOS. The UK government agreed to waive competition concerns in light of the extreme circumstances.[250] The government also made a secret loan of £25 billion to HBOS at this time which was not revealed until the following year.[251]

The banking UK banking crisis prompted the government to undertake actions in early October, 2008 similar to those in the US. £50 billion was allocated to recapitalize failing banks through government purchase of non-voting preference shares. In addition, £200 in

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[246] Buckley, 214.
[247] Goddard et al., "The Crisis in UK Banking," 282.
[248] Goddard et al., "The Crisis in UK Banking," 280.
[249] Buckley, 207.
[250] Buckley, 208.
[251] Buckley 209.

T-bills was made available to be exchanged for illiquid but high-quality securitized assets.[252] On October 13, 2008 the government announced £37 billion worth of capital injections to bailout Royal Bank of Scotland, Lloyds TSB and HBOS. The government's holdings of bank shares came to 60% of RBS and over 40% of Lloyds' post-merger equity. [253] The government's share of Lloyds' equity would later reach 57%.[254] It should also be noted that both Lloyds and HBOS shares fell sharply upon news of their merger, as one of the UK's strongest and most conservative banks was pressured by the government to acquire one of the riskiest and most highly-leveraged.[255] Government guarantees to banks dwarfed the figures relating to direct acquisitions, totalling £400 billion in loss insurance on banks' loans and toxic assets.[256] These guarantees underpinned the Government Asset Protection Scheme, the corollary of the TARP program in the US.[257]

Government intervention to prop up systemically important banks (or force their merger) reiterated the longer-term issue of moral hazard as such actions imply a commitment by public authorities to rescue banks from insolvency. This issue is still a concern, as the Banking Act of 2009 "does not clarify whether or in what circumstances the Bank of England should act as 'lender of last resort'."[258] The 2009 Banking Act did however enhance the crisis management powers of financial regulators by standardizing the resolution process of insolvent banks and clearly outlines government authority in facilitating mergers, acquisitions, or nationalisations of failing institutions.[259] Government financial interventions in the UK were more proactive than in the US or Iceland, representing a greater willingness to support systemically important institutions.

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[252] Goddard et al., "The Crisis in UK Banking," 281.
[253] Buckley, 208-214; Goddard et al., "The Crisis in UK Banking," 281..
[254] Buckley, 208.
[255] Buckley, 209.
[256] Buckley, 208.
[257] Buckley, 214.
[258] MacNeil, "The Trajectory of Regulatory Reform in the UK," 494; Goddard et al., "The Crisis in UK Banking," 282..
[259] MacNeil, "The Trajectory of Regulatory Reform in the UK," 496.

However the higher proportion of British GDP represented by financial services also made this an easier choice for the government.

4.5 Policy Response: Monetary Policy

The potential for a systemic credit market failure of the type following Lehman's demise in September, 2008 had been considered by UK policymakers since the first signs of crisis in 2007. The European Central Bank had begun a policy of liquidity injections into the financial system in August 2007 in response to the trouble at France's BNP Paribas, foreshadowing the later responses by the British and American governments. In the UK, this shift toward direct financial intervention occurred subsequent to the nationalisation of Northern Rock in October, 2007.[260] To avoid a repeat of the Great Depression, policymakers in the UK undertook to a) issue public guarantees on deposits and assets to save banks from collapse, and b) increase the money supply to offset the deflationary pressures of a credit market freeze.[261]

In early 2009 the Bank of England lowered the prime lending rate to the current 0.5% to ease the constraints on credit availability. It also undertook a Quantitative Easing program of asset purchases worth £200 billion, which has since been raised to £325 billion.[262] These additional asset purchases provide liquidity to financial firms and private investors, injecting electronically created money into the economy to stimulate investment. Quantitative Easing is typically undertaken as additional stimulus once the prime interest rate approaches zero and cannot be further reduced. These actions were unprecedented for the Bank of England: the lending rate had never previously been set below 2%.[263] This monetary expansion generated the greatest depreciation of the pound sterling since the UK first abandoned the gold standard in 1931.[264] The depreciation of

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[260] Kay, "UK Monetary Policy Change," 145-46.
[261] Kay, "UK Monetary Policy Change," 147.
[262] Sentance et al., "How the UK Economy Weathered the Financial Storm," 115; Bank of England, "Quantitative Easing Explained," accessed May 8, 2012. http://www.bankofengland.co.uk/monetarypolicy/Pages/qe/default.aspx.
[263] Sentance et al., "How the UK Economy Weathered the Financial Storm," 115.
[264] Sentance et al., "How the UK Economy Weathered the Financial Storm," 115.

the pound is also argued to have allowed the UK to benefit from the global economic recovery to a greater extent than other economies.[265]

As elsewhere, fear of deflationary pressure on currency resulting from restricted liquidity was a primary concern driving the monetary response.[266] Deflation has still occurred however, with prices in the UK continuing to hover around 82% of 2005 levels and exchange rates to the US dollar similar to those seen in the recession of 2000-2001.[267] The saving grace for the UK has been the stability of the euro against depreciations in the British pound and American dollar. This has generated a relative depreciation of the pound in relation to the bulk of UK trading partners: the continental European economies.[268] With little recovery since the deflationary peak in Q1 2009, the monetary response may be able to claim some credit in stabilising prices and exchange rates. The policy response has not been able to achieve a substantial recovery to anything near pre-crisis levels, however the unsustainable nature of pre-crisis conditions may render these unfair criteria for defining 'recovery'.

4.6 Policy Response: Fiscal Policy

Along with monetary expansion, the crisis also necessitated government fiscal support to resume economic growth. The UK is now struggling alongside other major economies to reduce the structural deficits resulting from fiscal stimulus. While discretionary budget changes after the fall of 2008 were relatively small and time-limited, automatic stabilisers greatly increased both public spending and public sector borrowing.[269] The Labour government's fiscal policy dating from 1997 was at this point "temporarily suspended" until 2015-16. The UK budget deficit represented 2.6% of GDP in 2007, 4.7% in 2008, and 10.9% in 2009 as nondiscretionary spending increased against a shrinking GDP.[270]

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[265] Sentance et al., "How the UK Economy Weathered the Financial Storm," 119.
[266] Kay, "UK Monetary Policy Change," 146.
[267] OECD, "Statistical Extracts."
[268] OECD, "Statistical Extracts;" CIA World Factbook, "United Kingdom."
[269] Malcolm Sawyer, "The Tragedy of UK Fiscal Policy in the Aftermath of the Financial Crisis," *Cambridge Journal of Economics* 36 (2012): 206.
[270] World Bank, "World Databank," Accessed May 10, 2012.

The Fiscal Responsibility Act 2010 subsequently mandated that public deficits must shrink as a proportion of GDP every fiscal year from 2011 to 2016, and must be halved from 2010-2014. A general election in May, 2010, saw Labour replaced by a Conservative-Liberal Democrat Coalition government, which announced plans to accelerate deficit reduction through reduced spending, or 'austerity.'[271]

The UK government's austerity program is predicated on economic projections wherein reductions in public spending, and thus demand, are offset by rises in private expenditure.[272] The argument for reducing deficits has been largely based on the fear of higher borrowing costs stemming from reduced national credit ratings. The UK Coalition government, including the Chancellor of the Exchequer, has used Greece as an example of this danger scenario.[273] However, Greece's inability to pay its debts stems largely from its lack of a national currency (discussed in the section on Greece in this paper), while the UK can "print money" through the Bank of England to service its national debt.[274] At least in the short term, this ability to pay the interest on its sovereign debt allows the UK to avoid the wrath of international credit rating agencies. While long term inflation is a danger in this scenario, the necessity of avoiding deflation, maintaining credit availability, and ultimately stimulating investment, would seem to support such actions in the short term. In comparison with the recovery of growth in the US, the recent return to recession in the UK implies the wisdom of a Keynesian stimulus approach.

4.7 Analysis

One difference in circumstances between the US and UK was their mortgage market structure. The majority of UK mortgages are variable rate loans, which are much more easily influenced by the Bank of England's prime interest rate than typically fixed-rate American mortgages. By substantially reducing the base lending rate between fall 2008 and spring 2009, the Bank of England was thus able to indirectly reduce mortgage costs,

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[271] Sawyer, "The Tragedy of UK Fiscal Policy," 2006.
[272] Sawyer, "The Tragedy of UK Fiscal Policy," 208.
[273] Sawyer, "The Tragedy of UK Fiscal Policy," 209.
[274] Sawyer, "The Tragedy of UK Fiscal Policy," 210.

mitigating foreclosures and easing downward pressure on property prices.[275] This was important because of the harsher repercussions for mortgage default in the UK, because of which many homeowners would be more desperate to avoid foreclosure. In addition, more limited capacity to keep up with demand for increased housing in the UK during the boom translated into less excess supply when the market collapsed. Thus property prices would not fall as drastically in the UK as in the US.[276] However, as the banks' balance sheets (excluding Lloyd's) were invested heavily in American MBS's, the UK financial sector was exposed to house price fluctuations to a greater degree than would be the case if they were more heavily focused in UK mortgage markets.

A rough consensus has emerged regarding the various factors which led to the financial crisis, with the rapid growth of credit in the absence of adequate capital seen as the primary factor.[277] Flawed risk management, pricing errors (especially based on dubious credit ratings), weak corporate governance and imbalanced compensation schemes, and opaque systemic and counterparty transparency all contributed to this trend, while reinforcing and overlapping with each other.[278] On balance, the more proactive stance of the UK government regarding financial interventions and monetary expansion has helped stabilize the financial sector. However, fiscal austerity has exacerbated the still-skittish investment climate and resulted in recession for the overall economy. As fiscal response is the primary difference between the US and UK cases, the return to growth in the former and recession in the latter implies an important role for fiscal stimulus despite the laudable aims of reducing public deficits. This is especially true considering the apparent ambivalence of credit rating agencies to increasing government debts, at least in countries with monetary policy autonomy. The Greek case demonstrates that, when monetary expansion is not an option, the effects of public debt and on national credit ratings and economic recovery are drastically different.

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[275] Sentance et al., "How the UK Economy Weathered the Financial Storm," 111.
[276] Sentance et al., "How the UK Economy Weathered the Financial Storm," 111.
[277] MacNeil, "The Trajectory of Regulatory Reform in the UK," 522.
[278] MacNeil, "The Trajectory of Regulatory Reform in the UK," 523.

5 GREECE

The Greek economy has been hit particularly hard by the global economic crisis – it is now in its fifth consecutive year of recession. High public spending combined with economic recession and skyrocketing borrowing rates have drastically increased Greek sovereign debt, which already represented over 100% of GDP prior to the crisis. Greek membership in the Euro currency zone has complicated the country's situation by limiting the options for both monetary and fiscal response. Monetary policy is severely constricted as the government cannot print money to stimulate the economy and inflate its currency, which would reduce the burden of Greek-denominated debts and encourage exports. The need to pay its debts has forced Greece to take loans from the EU and IMF, which are conditioned upon drastic reductions in public spending. Greek fiscal policy is also thus severely constricted at precisely the time when Keynesian theory would argue for fiscal stimulus.

The uncertainty surrounding Greek austerity politics, bailouts, and a possible exit from the Euro have kept markets fearful. This has driven up the cost of borrowing for Greece and driven away investment. The Greek economic crisis is thus a sovereign debt crisis resulting from government overspending and the policy restrictions of a shared currency, rather than a result of mismanagement in the financial industry. Similar themes are discernible however. Greek deficits and debt were misrepresented in the country's bid to enter and remain in the Euro-zone, obfuscating debt levels in breach of the Stability and Growth Pact (SGP) outlined in the Maastricht treaty.[279] This can be seen as an, albeit indirect, misrepresentation of risk in that Greece took on liabilities it had little hope of financing in the absence of monetary policy discretion. Crisis resulting from the reassessment of underestimated (and misrepresented) risk is thus a broader theme which ties the Greek case to the others in this paper. Shortcomings in fiscal oversight at the European level – failure to effectively monitor member country finances and debt - here correlate to macro-prudential failures at the national regulatory level in other cases. The

[279] Suhail Abboushi, "Analysis and Outlook of the Greek Financial Crisis," *Journal of Global Business Management* 7 no. 1 (2011): 2.

severity of recession in the absence of either monetary or fiscal stimulus reinforces the Keynesian position that these are effective tools in moderating economic contractions.

5.1 Governance of State Finances

Greece's public administration is characterized by an executive branch with strong constitutional powers but relatively weak capacity to implement policies. This stems from a lack of centralized resources and relative operational independence at the ministry level. Poor intra-governmental coordination is exacerbated by heavily bureaucratic ministry apparatus which are significantly influenced by unions.[280] Convoluted budgetary accounting practices not only make isolating and altering budgetary priorities difficult, they also create "much scope for clientelistic and corrupt practices."[281] Under such conditions tax evasion has also become a major issue in Greece. Almost a third of tax revenues, representing 3.4% of GDP, went uncollected in 2006.[282] Clientelism also characterizes labour relations in Greece. The main unions represent primarily a core of public sector workers, with low unionization in the private sector. Employers and workers of Greece's few large firms are over-represented, while the many "small and micro-enterprises" enjoy neither effective representation nor regulation.[283]

State institutions in Greece suffer from "chronic mismanagement and endemic corruption."[284] The extensive government bureaucracy makes Greece an unappealing investment market and a difficult place to do business – a World Bank survey ranked Greece the lowest of any OECD country in terms of ease of doing business.[285] Structural unemployment before the crisis was already high, especially among the young. This has

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[280] Kevin Featherstone, "The Greek Sovereign Debt Crisis and EMU: A Failing State in a Skewed Regime," *Journal of Common Market Studies* 49 no. 2 (2011): 195.
[281] Featherstone, "The Greek Sovereign Debt Crisis and EMU," 196.
[282] Featherstone, "The Greek Sovereign Debt Crisis and EMU," 196.
[283] Featherstone, "The Greek Sovereign Debt Crisis and EMU," 197.
[284] George A. Papandreou, "A New Global Financial Architecture: Lessons from the Greek Crisis," *Mediterranean Quarterly* 21 no. 4 (2010): 1.
[285] Abboushi, "Analysis and Outlook of the Greek Financial Crisis," 3.

resulted in a large informal economy, representing almost 30% of GDP.[286] Government provision of services is also strongly defended yet ineffective: the Greek government provides health care and free education, yet Greece also sees more private spending on health and education than any other EU country.[287] Greek political economy has typically favoured "anti-competitive regulation, barriers to entry, relatively cheap labour and stable product demand."[288] Greece's culture of clientelist statism and jealous protection of the public sector has created an economic environment extremely resistant to reform. This has contributed to extreme political unrest in response to Government austerity measures.

5.2 Sovereign Debt Bubble

Greek sovereign debt can be seen as an asset bubble because investors extended the Greek government easy credit at rates below what government finances should have incurred, indicating an overestimation of the value of holding Greek debt.[289] Greece's lack of economic competitiveness and barriers to reform rendered it extremely vulnerable to the global economic crisis. Greece became the twelfth member of the Euro-zone in January 2001. A shared currency was expected to stabilize prices, control inflation variability and allow longer-term economic planning and projections. This in turn would lower borrowing costs for Greece, which had a history of high and variable inflation.[290] Accession did significantly lower borrowing rates, represented by bond yields, and inflation, which averaged 3.3% from 2001-2007 as compared to 9.39% from 1991-2000.[291] GDP growth also increased after accession, averaging around 4% from 2001-2008, compared to 2.36% from 1991-2000.[292]

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[286] Featherstone, "The Greek Sovereign Debt Crisis and EMU," 197.
[287] Featherstone, "The Greek Sovereign Debt Crisis and EMU," 197.
[288] Featherstone, "The Greek Sovereign Debt Crisis and EMU," 197.
[289] Heather D. Gibson, Stephen G. Hall and George S. Tavlas, "The Greek Financial Crisis: Growing Imbalances and Sovereign Spreads." *Journal of International Money and Finance* 31 (2012): 514.
[290] Gibson et al., "The Greek Financial Crisis," 499.
[291] World Bank, "World Databank," Accessed May 25, 2012.
[292] Gibson et al., "The Greek Financial Crisis," 500; World Bank, "World Databank."

Despite these short-term benefits, structural problems continued to affect the Greek Economy. Government deficits consistently exceeded the 3% of GDP figure outlined in the SGP, while total government debt was maintained at roughly 125% of GDP since the early 2000's and surpassed 140% of GDP in 2009.[293] This was largely related to rigid public sector wages. Politicians are not only under extreme pressure from unions to maintain wage levels, but also use public sector jobs to generate support during elections. When seeking to reduce government debt (or simply mitigate its increase), Greece has generally opted to sell public assets or increase taxes rather than decrease spending.[294] Greek public expenditure as a proportion of GDP rose from roughly 45% in 2001 to over 50% by 2009, while deficits rose from 4.63% to 15.55% of GDP over the same period.[295]

Greek accession to the Euro also precipitated a decline in competitiveness. While inflation rates were historically low for Greece, they averaged 1% higher than the Euro-zone average from 2001-2009. Wages also increased faster than the Euro-zone average. Relatively high costs for goods and labour reduced Greek competitiveness, reflected by the current account deficit which increased from over 7% of GDP in 2001 to almost 15% in 2007-2008.[296] Because of its membership in the Euro-zone, Greece could not employ monetary policy to offset this decline in competitiveness by devaluing its currency.[297] Growing budget deficits likewise restricted the scope of potential fiscal policy responses in the event of economic slowdown, while rigid labour markets reduced the real economy's flexibility to deal with a decline in growth. Finally, the enormous proportion of GDP dependent on non-discretionary government spending meant that reductions in tax revenue in the event of recession would put severe pressure on already-strained public finances.

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[293] World Bank, "World Databank."
[294] Featherstone, "The Greek Sovereign Debt Crisis and EMU," 198.
[295] Gibson et al., "The Greek Financial Crisis," 501; World Bank, "World Databank."
[296] Gibson et al., "The Greek Financial Crisis," 502.
[297] Hartmut Fischer, Elliot Neaman and Shalendra D. Sharma, "Why the Greek Meltdown Became a Euro-Zone Crisis," *The Whitehead Journal of Diplomacy and International Relations* 12 no. 2 (2011): 47.

5.3 Financial Crisis

Greece initially saw few direct effects of the financial crisis which began in August 2007, which saw yields on Greek bonds increase only mildly. International concerns about Greek public finances were sparked in October 2009 when the newly-elected socialist government revealed that Greek deficits were much higher than originally thought. Previously reported at 3.6% of GDP for 2009, the figure was updated to 12.8% of GDP. This figure would further rise to 13.6% by April, 2010.[298] Other estimates place the 2009 deficit at 15.55% of GDP, while total government debt represented 142% of GDP.[299] An EU Commission report in January 2010 revealed "incorrect data, non-transparency, improperly documented bookkeeping," and a general abdication of responsibility by the National Statistical Service.[300] It became clear that the statistics agency had misrepresented Greek fiscal conditions, reporting false deficits which appeared to conform to EU convergence criteria. As debt crises struck other small economies, such as Dubai in November 2009, international financial markets grew much more risk-averse. Greek fiscal and trade imbalances became a focus of intense speculation.[301]

By December 2009 international financial markets were concerned over a potential Greek default. The three major credit rating agencies repeatedly downgraded Greek bonds, which were judged by Standard & Poor to have reached 'junk' status by April, 2010. Bond yield spreads rose sharply, reaching 15.3% on two-year bonds.[302] By May, 2010 interest on 10-year bonds had reached 38% and default seemed "imminent."[303] Questions were raised as to whether Greece would be driven into sovereign default if it could not pay its debts. The deficit revelation was a serious concern for international financial markets in assessing Greece's borrowing capacity, as well as for the Euro-zone which

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[298] Featherstone, "The Greek Sovereign Debt Crisis and EMU," 199; Papandreou, "A New Global Financial Architecture," 1.
[299] World Bank, "World Databank."
[300] Abboushi, "Analysis and Outlook of the Greek Financial Crisis," 2.
[301] Gibson et al., "The Greek Financial Crisis," 504.
[302] Abboushi, "Analysis and Outlook of the Greek Financial Crisis," 3.
[303] Fischer et al., "Why the Greek Meltdown Became a Euro-Zone Crisis," 43.

depends on data reported by member states in forming policy.[304] Tellingly, the Greek bailout of 2010 stipulated that the statistics bureau must be made independent of the government.

5.4 Contagion through market uncertainty

To a far greater degree than that seen in this paper's other case studies, the Greek experience was strongly influenced by exogenous policy responses to the crisis. This stems from the fact that Greece is part of the European Union and, more specifically, the Euro-zone. As institutions whose memberships consist of sovereign states, the EU and Euro-zone labour under a state of "policy conditionality" rather than "policy coherence."[305] Governance institutions in the Euro-zone have limited capacity to react to a crisis of the present magnitude, "lacking the capacity for speedy reaction, policy discretion and centralized action."[306] The Maastricht treaty forbade excessive deficits but included no legal instruments to intervene and impose austerity on errant states. Such enforced austerity has been a condition of bailouts to European states, especially Greece, although such bailouts were theoretically prohibited by Maastricht. This institutional unpreparedness created extreme uncertainty in the face of the Greek crisis, which was exacerbated by the slow response of the ECB and Euro-zone member states.

Euro-zone governments agreed to the principle of a joint IMF-EU bailout for Greece in late March, 2010. By the end of April Greek Prime Minister George Papandreou requested the plan be enacted, and on May 2 Greece was extended the first installment of a €110 billion rescue loan.[307] The Greek bailout was not simply intended to stabilize Greek finances – German and French banks held Greek debt which was backed by guarantees from those countries' governments.[308] Germany, France, Italy, and other

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[304] Featherstone, "The Greek Sovereign Debt Crisis and EMU," 199.
[305] Papandreou, "A New Global Financial Architecture," 3.
[306] Featherstone, "The Greek Sovereign Debt Crisis and EMU," 201.
[307] Featherstone, "The Greek Sovereign Debt Crisis and EMU," 202.
[308] Fischer et al., "Why the Greek Meltdown Became a Euro-Zone Crisis," 46.

Euro-zone governments held stakes in a combined €80 billion of Greek debt.[309] A Greek default would also require restructuring the Euro, which would in turn devalue Eurozone bonds as well.[310] These transmission paths of contagion from Greece to European national bond markets and the Euro itself generated fears of the havoc a Greek default could wreak on the rest of Europe, despite the small proportion of European GDP represented by the Greek economy.[311]

Without the rescue loan Greece would certainly collapse, possibly taking the Euro down with it. But even the May, 2010 'rescue' was at best a temporary solution. Standard & Poor estimated Greek debt to reach 144% of GDP by 2015, although it actually reached this figure by 2010. Greek debt in 2010 is estimated to be 165.4% of GDP, a figure not previously projected until 2016 at the earliest.[312] Greece is now borrowing just to pay interest on its debt.

5.5 Monetary Expansion, Fiscal contraction

While individual Euro-zone countries lacked the institutional independence to engage in monetary policy responses, there was action at inter- and supra-national levels. In the week following the Greek bailout loan announced on May 2, Euro-zone governments agreed to a €750 billion bailout guarantee to restore confidence in the currency's weaker members. This was supplemented by a €321 billion commitment from the IMF and a deal with the US Federal Reserve to increase dollar availability through liquidity swaps.[313] The ECB used this liquidity to begin buying public and private debt, reversing its earlier conservative stance and lowering collateral standards to allow it to absorb higher-risk

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[309] Featherstone, "The Greek Sovereign Debt Crisis and EMU," 203.
[310] Fischer et al., "Why the Greek Meltdown Became a Euro-Zone Crisis," 46.
[311] Greece only represents about 2.4% of European GDP. Fischer et al., "Why the Greek Meltdown Became a Euro-Zone Crisis," 45.
[312] World Bank, "World Databank," Accessed May 25, 2012; Featherstone, "The Greek Sovereign Debt Crisis and EMU," 205.
[313] European Central Bank, "ECB Decides on Measures to Address Severe Tensions in Financial Markets," accessed June 1, 2012, http://www.ecb.int/press/pr/date/2010/html/pr100510.en.html; Fischer et al., "Why the Greek Meltdown Became a Euro-Zone Crisis," 43.

assets such as Greek bonds. While this temporarily increased liquidity, the hesitance at buying Euro-zone government bonds remained.[314] Despite the avoidance of a short-term liquidity crunch, the issue of central government debt and likely inability to pay remains a dominant factor in financial markets' aversion to Greek bonds. The EU-IMF 'rescue' packages are in fact loans, which have increased short-term liquidity into the system but have added to the debt overhang at the heart of Greek solvency problems.

5.6 Austerity and Politics

The austerity measures imposed on Greece as a condition of its bailouts are intended to reign in public spending and reduce deficits in the hopes of increasing market confidence in Greek fiscal solvency. The Stability and Growth Programme proposed by Greece to the EU in May 2010 called for budget cuts equivalent to 8.6% of GDP. Pensions, salaries, and jobs in the public sector were to be cut, while protected industries would be liberalized. The union response to this was strong, with truckers and maritime workers shutting down the countries transport infrastructure. By July 2010 public sector unions had called six general strikes.[315] Rioting has also been widespread, especially in the run-up to the February, 2012 elections.

An additional €130 billion EU-IMF loan was approved in March 2012, and Greece's private creditors have agreed to significant value write-downs and refinancing. Greek avoidance of a sovereign default is dependent upon access to these funds, which in turn are conditional upon robust fiscal austerity measures. As in the UK, growth projections under austerity are predicated on the replacement of public expenditure with private investment to stimulate demand. However the pro-austerity government elected in February has already fallen. Subsequent elections in early May proved inconclusive.[316] The uncertainty generated by the political contest over austerity measures has kept markets sceptical regarding the likelihood of sustained austerity, and by extension the

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[314] Fischer et al., "Why the Greek Meltdown Became a Euro-Zone Crisis," 44.
[315] Featherstone, "The Greek Sovereign Debt Crisis and EMU," 206.
[316] BBC World News, "Greece Struggles to Steer a Path Through the Crisis," last updated May 15, 2012, accessed May 28, 2012. http://www.bbc.co.uk/news/world-europe-18076897.

likelihood that Greece will avoid default.[317] Greek borrowing costs have thus remained high, while investment has continued to be scarce. The lack of private investment has exacerbated the economic effects of austerity, resulting in socio-economic dislocation which adds to the political pressure against austerity.

The result of this vicious cycle has yet to be seen, however none of the potential outcomes are particularly positive. Either anti-austerity political and social forces will gain power, in which case they will attempt to renegotiate the terms of the EU-IMF bailout. Should they succeed, confidence in Euro-zone governance will likely be further damaged. Should they fail, Greece will likely default on its sovereign debt and potentially have to leave the Euro. In this case, a precedent will have been set for member country debt defaults, increasing the perceived risk relating to bond markets in other highly-indebted Euro-zone countries. In this sense, the Euro-zone faced its own "Lehman moment" in 2010.[318] Greek collapse would be perceived to herald the possibility of similar outcomes elsewhere, and shake confidence in Euro-zone bond markets the same way Lehman Brothers' bankruptcy shattered investor confidence in highly leveraged financial firms. This could precipitate a further expansion of the Euro-zone sovereign debt crisis as capital flees the bond markets of highly-indebted countries such as Ireland, Portugal, Italy, and Spain. Contagion thus stems from counterparty risk reappraisal by creditors, whether the borrower is a financial firm or a national government.

The less likely scenario of a new pro-austerity government in Greece is systemically preferable – the execution of the EU-IMF bailout proposal would likely allow Greece to stay in the Euro. This course of action could avert a system-wide expansion of the crisis. However, that may provide little solace to Greeks forced to muddle through a long and painful recovery under the twin burdens of fiscal austerity and the competitive challenge of an overvalued currency.

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[317] Gibson et al., "The Greek Financial Crisis," 515; Fischer et al., "Why the Greek Meltdown Became a Euro-Zone Crisis," 48.
[318] Fischer et al., "Why the Greek Meltdown Became a Euro-Zone Crisis," 43.

5.7 Analysis

The revision of fiscal data since October, 2009 created a strong reaction in financial markets and drove up yields on Greek bonds. This represents a market correction against the previous overvaluation of Greek debt based on erroneous data. Gibson *et al.* have found that in the period from 2001 to mid-2009, spreads on bond yields between Greek and German bonds were significantly lower than should have been expected according to economic fundamentals. That is, Greek bonds were overvalued and their yields were artificially low. Following the revision of fiscal data starting in mid-2009, financial markets seem to have overcorrected in the opposite direction. By September 2010, the same researchers found spreads on Greek bond yields to be almost 50% higher than could be justified by economic fundamentals.[319]

Informational non-transparency played a significant role in the Greek crisis in the form of misrepresentations by the national statistics agency. The European Commission has since proposed to undertake greater oversight of Euro-zone countries' budgets, including assessing national statistics agencies.[320] This type of governance relates to national debt levels rather than private firms' risk evaluations. However sovereign debt, economic growth, and trade imbalances largely reflect a country's risk of default. Greek membership in the Euro-zone was predicated on levels of debt and deficits incongruent with economic growth and competitiveness, due to the large role of inflexible public spending in the Greek economy. Greece concealed its spending and debt levels in order to stay in the Euro, membership in which denied it the monetary policy flexibility required to respond to its debt crisis.

Low interest rates and the perception of stability resulting from accession to the Euro lowered Greek borrowing costs from 2001-2009. Like American, British, and Icelandic

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[319] Gibson et al., "The Greek Financial Crisis," 514.
[320] Netherlands Ministry of Foreign Affairs, "The Netherlands welcomes extra oversight powers for the Commission," last updated November 24, 2011, accessed May 26, 2012. http://www.minbuza.nl/en/news/2011/11/the-netherlands-welcomes-extra-oversight-powers-for-the-commission.html.

banks, the Greek government could have used this period of growth to reduce its debt and consolidate its finances along countercyclical, Keynesian lines. Instead, all four squandered this opportunity by borrowing further. Private financial firms increased leveraging by acquiring assets – the Greek government ran deficits to increase public sector expenditures. The key link is that both were able to maintain low borrowing costs by misrepresenting the scope and scale of their liabilities. Revelations of financial mismanagement spurred dramatic risk reappraisals, causing an international run on Greek bonds, not unlike the capital flight from over-leveraged financial institutions elsewhere. Thus, the issues of informational transparency and institutional accountability are at the heart of governance reforms necessary to prevent future crises whether the subject is private corporations or national governments.

A final word is necessary on the exogenous role of foreign financial firms in the Greek crisis. The highly influential role of American credit rating agencies in the evaluation of assessment and reassessment of sovereign risk is striking. The emerging power these private firms can exert over sovereign states is a newly recognized and often criticized dynamic.[321] Moreover, the drastic over- and subsequent under-valuing of Greek debt was not solely due to fiscal misrepresentation by the state. French and German financial firms had also "flooded" Greece with cheap credit upon its accession to the Eurozone. It has been suggested that these firms, holding over $100 billion in Greek debt, sought to exacerbate the crisis to force a bailout and prevent Greece from defaulting.[322] The short selling of Greek sovereign debt through Credit Default Swaps (CDS), essentially betting that Greece would default, further drove market concerns and contributed to the sense of panic which prompted the bailout.[323] European financial firms thus also engaged in what might be described as predatory lending, in this case to the Greek state rather than individual households.

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[321] Featherstone, "The Greek Sovereign Debt Crisis and EMU," 200.
[322] Fischer et al., "Why the Greek Meltdown Became a Euro-Zone Crisis," 46.
[323] Fischer et al., "Why the Greek Meltdown Became a Euro-Zone Crisis," 46.

The role of ratings agencies as de facto macro-prudential oversight bodies entails extreme moral hazard. This represents an insufficient system of ad hoc international financial governance since these institutions and their corporate partners have major stakes in the success or failure (through short selling) of the firms and markets whose risk they assess. The role of investment firms in driving the crisis is potentially even more serious. It has been charged that once French and German firms holding Greek debt began to face losses on this investment they endeavoured to drive the crisis to the point where a bailout was necessary, thus transferring their losses to European taxpayers.[324] Indeed, a national government can be seen as the ultimate form of an institution which is 'too-big-to-fail.'

Regardless of crisis manipulation by private firms, Greek policy going into the crisis bears criticism. High public and private debt was the trigger of the sovereign debt crisis. Yet these factors would have nevertheless restricted the scope of fiscal policy in the case of an economic crisis transmitted through trade channels. Growing trade deficits certainly worsened the crisis, however it was the increasing difficulty of the government to borrow which undermined public spending, the lynchpin of the Greek economy. Keynesian and neoliberal theories would differ on the propriety of deficit spending during recession, but neither would favour the deficit spending during times of growth exhibited by Greece (and the US, UK, and Iceland) in the period from 2001 to 2007. Greek deficits in this period averaged over 5.8% of GDP, compared to about 1.7% for the Eurozone as a whole.[325]

Greek political culture was incapable of lowering the public share of GDP, while this fact was hidden in the interests of Eurozone membership. Such membership was in turn what allowed the access to easy credit from European financial markets which drove the Greek debt bubble. It was thus this initial lack of informational transparency, exacerbated by institutional profligacy (in this case, by the state), which can be seen as the primary cause of the Greek meltdown. Without this misrepresentation of debt, Greece would not have been allowed into the eurozone, and would thus have not been subject to the monetary

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[324] Fischer et al., "Why the Greek Meltdown Became a Euro-Zone Crisis," 46.
[325] World Bank, "World Databank," Accessed May 25, 2012.

and fiscal constraints which have thrown Greece into depression – and the European currency zone into crisis. Monetary and fiscal policy responses have thus not been available to Greece, resulting in it facing the worst recession of any case in this paper. This reiterates the usefulness of Keynesian stimulus tools in softening the impact of recession. Interestingly, the bailout of institutions (countries) which are 'too big to fail' has occurred at the European level, and has been essentially in preventing a Greek default which would likely unravel the European currency as it currently exists. The overarching importance of regulatory oversight and coordination to ensure risk transparency to avoid sharp, painful market corrections through the reevaluation of risk is once again made clear in the Greek case.

6 CANADA

That Canada experienced the global recession is clear – Canadian GDP shrank by 2.77% in 2009, after growing only 0.69% in 2008.[326] Data from the Bank of Canada shows steep initial drops in both exports and investment at the onset of the global recession, mirroring conditions in the United States.[327] Despite this initially steep economic dip, Canada's economy recovered faster than in any previous recession despite a lag in export and investment recovery. Household balance sheets declined by 8.7% from 2007-2009, compared to 26.6% in the US.[328] In fact, domestic demand was supported instead through increased household and government spending.

Expansionary monetary and fiscal policies were employed to weather the collapse of global demand and credit, and this was possible because "Business and household balance sheets were relatively sound, and the banking system was robust, managed prudently, and sufficiently capitalized."[329] The potential scope of government policy

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[326] World Bank, "World Databank," Accessed May 25, 2012.
[327] Jean Boivin, "The 'Great' Recession in Canada: Perception vs. Reality," (Speech Delivered to the Montreal CFA Society, Montreal, Quebec, March 28, 2011): 4. Accessed January 27, 2012. http://www.bankofcanada.ca/2011/03/speeches/great-recession-canada-perception-reality/.
[328] Statistics Canada, "Chapter 9: Economic Accounts," *Canada Yearbook 2011* (2011): 120, accessed April 25, 2012. http://www.statcan.gc.ca/pub/11-402-x/2011000/pdf/economic-economique-eng.pdf.
[329] Boivin, "The 'Great' Recession in Canada," 4.

response has lessened however, as interest rates approach the zero lower-bound, while public and household debt are now much higher due to the recession and government response. Moreover, structural vulnerabilities such as growing household debt, a domestic housing bubble, and exposure to the continued global downturn - especially through the European debt crisis and demand spillovers from the United States - present continuing challenges moving forward.[330]

Despite these greater long-term challenges, the initial Canadian preparation for and response to the recent recession has been relatively successful in mitigating the worst effects of economic shock. Canada did not experience a collapse in the housing market, or anywhere near the scale of job losses, as seen in the United States.[331] Stimulating demand through household and public deficit spending during a recession reflects a distinctly Keynesian approach, as does the increase in private and government savings (deficit reduction) during the pre-recession commodity boom.[332] Moreover, the strong financial sector regulation historically seen in Canada favours a statist, interventionist perspective over the dominant neoliberal, deregulatory paradigm of the last two decades. Canada's strong financial regulation and prior fiscal restraint resemble the policies favoured by international financial institutions such as the European Central Bank and the IMF.

Canada's superior performance through the financial crisis and recession thus demonstrates the combination of effective monetary and fiscal policy responses, as well as timely and deliberate financial interventions. Crucially, the Canadian case also demonstrates the effect of sound financial regulatory governance in mitigating the onset of financial crisis in the first place. A much higher proportion of Canadian financial assets fell under the regulated banking sector versus the unregulated "shadow" banking in

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[330] International Monetary Fund, "Canada: Selected Issues Paper," *IMF Country Reports* December, 2011, accessed January 25, 2012, http://www.imf.org/external/pubs/ft/scr/2011/cr11365.pdf; Gordon Isfeld, "Canada's Banking Watchdog to Oversee Housing Agency," *Financial Post*, April 26, 2012, accessed June 12, 2012. http://business.financialpost.com/2012/04/26/osfi-to-supervise-cmhc/.
[331] David Herle, "What the Great Recession Felt Like to Canadians," *Policy Options* (April, 2011): 32. Accessed January 29, 2012. http://www.irpp.org/po/archive/apr11/herle.pdf.
[332] Statistics Canada, "Chapter 9: Economic Accounts," 120.

over-the-counter securities which gained such large market shares in the US, UK, and Iceland. This drastically reduced the effects of the collapse in American real estate values in Canada, while prudent corporate and regulatory governance helped maintain stability in Canadian housing prices. Canada's more muted experience of the financial and economic crisis thus correlates to successful implementation of all four policy variables examines in this paper, with the key variable of sound financial regulation also limiting exposure to the US-generated crisis.

6.1 Financial Regulation

6.1.1 Financial Regulation - Banking

Canada's banking system is based on branch banking by the "big 6" national banks. These institutions engage in commercial, retail, and investment banking as well as providing wealth management and mutual funds.[333] The small number of large banks in Canada helps facilitate government intervention and coordination with the banking sector as a whole. The government maintains an "implicit guarantee" of banks, while also claiming the right to intervene to force mergers between strong and failing banks.[334] It has been suggested that this governmental under-writing of the financial sector can allow technically insolvent banks to stay afloat in times of crisis, maintaining stock prices far higher than the market value of their assets alone would justify.[335]

Gradual deregulation from the 1960's through the 1980's consolidated universal banking in Canada, allowing single banks to operate commercial and investment banking, as well as insurance and securities brokerage services.[336] Thus, Canadian banks were already 'universal' long before the American repeal of the Glass-Steagall Act in 1999, which

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[333] Brean et al., "Canada and the United States: Different roots, different routes to financial sector regulation," 251.
[334] These policies initiated from the failure of a major Canadian bank, the Home Bank, in 1923. Brean et al., "Canada and the United States: Different roots, different routes to financial sector regulation," 252.
[335] Brean et al., "Canada and the United States: Different roots, different routes to financial sector regulation," 252-53.
[336] Brean et al., "Canada and the United States: Different roots, different routes to financial sector regulation," 256-259.

allowed commercial-investment banks, securities dealers, and insurance brokerages to formally merge.[337] The primary difference between the institutional structures of Canadian and American financial regulation is thus not the type of activities financial firms are allowed to undertake, but the centrality of regulatory authority which oversees them. Regional and National banks only emerged in the US in the 1980's, by which time Canadian banks were already operating within an oligopolistic cartel structure.

In fact before the 1980's Canadian banks were typically more highly leveraged than American banks. However Canadian firms were able to fund assets through their large and stable deposit base rather than more skittish money markets as seen in the United States.[338] Canadian banks thus lent more as a proportion of assets than American banks until the 1980's. The low risk of failure, thanks to the implicit government guarantee, combined with higher returns on equity through increased leverage, allowed Canadian banks to be bolder than their American counterparts during this period.[339] However this occurred under the aegis of centralized federal regulation and oversight, with the clear acknowledgement of government supervision and authority to intervene in the event of crisis. This combination of higher profits and greater stability mitigated competition in the Canadian financial industry – firms became more interested in long-term growth and maintenance than short-term survival. This in turn is argued to have "led to conservative banking and regulatory cultures."[340]

Conservative banking as a result of reduced risk may seem counter-intuitive, however this outcome occurred in Canada because banks traded stability for more rigid governmental supervision. American financial regulation is fragmented into numerous state and federal regulators, which are further divided according to the type of operation

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[337] Brean et al., "Canada and the United States: Different roots, different routes to financial sector regulation," 263.
[338] Brean et al., "Canada and the United States: Different roots, different routes to financial sector regulation," 264.
[339] Michael D. Bordo, Hugh Rockoff and Angela Redish, "The U.S. Banking System from a Northern Exposure: Stability versus Efficiency," *The Journal of Economic History* 54 no. 2 (1994): 339. Brean et al., "Canada and the United States: Different roots, different routes to financial sector regulation," 263.
[340] Brean et al., "Canada and the United States: Different roots, different routes to financial sector regulation," 263.

in question (securities, insurance, etc.). Even the Federal Reserve is broken into twelve privately-owned regional banks.[341] This worked well enough before the 1980's, when the US banking sector was divided into thousands of smaller banks with no extensive national branch banking networks.[342] However the deregulation of the 1980's-90's, culminating in the repeal of Glass-Steagall in 1999, created a newly nationwide banking sector with nothing like comprehensive regulatory oversight.

Since the 1980's rules governing capital adequacy for financial institutions have been outlined in the internationally-recognized Basel Accord. Current standards are outlined under "Basel II", although the amendments proposed in 2010 ("Basel III") would raise capital requirements.[343] Canada, the United States and the European Union all subscribe to Basel II, but Canadian domestic capital requirements are in fact more strict than those formally required under the treaty. Neither Canada nor the US allows an official risk-weighted capital-to-assets greater than 20:1. Crucially though, American regulations do not include off-balance sheet activities in this calculation.[344] Canada's regulatory framework thus directly mitigated the increase of leverage, through off-balance sheet activity, which so destabilized American and European commercial banks in the recent crisis.

6.1.2 Financial Regulation – Securities

Equity, bond, and derivatives trading by financial firms requires transparency, through standardized accounting and external auditing, in order to prevent unfair market manipulation by those with inside knowledge. Until the 1990's, the regulation of financial products in Canada increasingly converged with that of the United States. During this period, Canada's Accounting Standards Board (ASB) brought regulations into line the United States' Generally Accepted Accounting Principles (GAAP). This was

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[341] Brean et al., "Canada and the United States: Different roots, different routes to financial sector regulation," 264.
[342] Although this system was still more prone to financial crises than was Canada's. Bordo et al., "The U.S. Banking System," 329-330.
[343] Leblond, "Canada, the European Union, and Transatlantic Financial Governance," 68.
[344] Leblond, "Canada, the European Union, and Transatlantic Financial Governance," 69.

motivated both by bilateral trade purposes as well as the increasingly accepted nature of GAAP globally.[345] This trend of American financial accounting dominance was interrupted in 2002 when the European Union adopted the International Financial Reporting Standards (IFRS) used by the International Accounting Standards Board based in London, UK.[346]

In 2005 the ASB announced a shift in focus from GAAP to IFRS conformity, since the American Securities and Exchange Commission allows foreign companies to report under these rules. In fact, even American companies will be allowed to report to the SEC using IFRS by 2014.[347] North American and European regulatory governance is thus converging in the realm of accounting standards, which are a vital basis for external auditing and ultimately micro- and macro-prudential oversight. This forms the informational basis for effective international coordination and oversight in these areas. However, the institutional authority and cooperation required for prudential oversight at the international level has not yet manifested itself to the degree seen in accounting standards.

While international accounting standards can help improve transparency by mitigating arbitrage, it should be noted that mere standardization is not a panacea. Practices such as "mark-to-market" accounting, which value securities according to their current market value rather than the solvency of underlying assets, are still allowed under both GAAP and IFRS.[348] 'Transparency' in securities' regulation can thus have different meanings – transparency according to current market values gives investors clear information on the likely short-term performance of assets. This contributes to procyclicality as assets are

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[345] Leblond, "Canada, the European Union, and Transatlantic Financial Governance," 63-64.
[346] This decision was partly based on the desire to move away from an American-dominated accounting standard, however the Europeans were also wary of originating entirely new standards. The standards practised in London, a centuries-old European financial capital, were thus seen as an appealing compromise. Leblond, "Canada, the European Union, and Transatlantic Financial Governance," 64.
[347] Over one hundred countries permitted or required reporting under IFRS as of 2010. Leblond, "Canada, the European Union, and Transatlantic Financial Governance," 65.
[348] United States, Securities and Exchange Commission, *Report and Recommendations Pursuant to Section 133 of the Emergency Economic Stabilization Act of 2008: A Study of Mark-To-Market Accounting* (Washington, D.C. [2008]), accessed July 19, 2012, http://www.sec.gov/news/studies/2008/marktomarket123008.pdf.

overvalued during bubble growth, and then collapse in value during contraction – "even in cases where the underlying assets were secure and at a zero risk of default."[349] Accounting standards are a vital aspect of transparency in securities regulation and thus of macro-prudential oversight, however institutional authority is required to execute effective governance using available information at the national as well as international level.

Canada does not have a national securities regulator, relying instead on securities regulation at the provincial level. The influence over financial stability of "near banks" – hedge funds, private capital funds, and trusts – in Canada is less than in the United States, due to the overwhelming concentration of financial assets in Canada's six largest banks. However these "near banks" can still amplify instability in the case of a liquidity crisis as they require continuous short-term financing, while they do not have the deep pools of capital and liquidity maintained by federally regulated banks. During the financial crisis, many of these non-banks could not afford to repurchase assets which had been securitized but could no longer be refinanced. This resulted in "a $32 billion problem that left investors with substantial losses."[350] It has thus been argued that these institutions require a federal regulatory framework similar to that which governs formal banks. Such a framework would include capital and liquidity requirements as well as inspection, micro-prudential oversight, and a liquidity provider of last resort.

6.1.3 Financial Regulation – Macro-prudential oversight

Since the 1980's the Office of the Superintendent of Financial Institutions (OSFI) has been Canada's main overseer of micro-prudential regulation. Micro-prudential oversight refers to the regulation of individual financial firms to maintain best practices and protect

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[349] Goddard et al., "The Crisis in UK Banking," 278.
[350] Douglas Peters and Arthur Donner, "Some Thoughts on Financial Reform in Canada," *Behind the Numbers* 10 no. 5 (2009): 1-2, accessed April 26, 2012, http://www.policyalternatives.ca/sites/default/files/uploads/publications/National_Office_Pubs/2009/Financial_Reform_in_Canada.pdf.

depositors, as opposed to macro-prudential governance which seeks to balance systemic risk in the financial system as a whole.[351] OSFI confers with the Bank of Canada, Canada Deposit Insurance Corporation (CDIC), the Department of Finance, and the Financial Consumer Agency of Canada through the Financial Institution Supervisory Committee. FISC does not regularly include provincial securities regulators or the Canadian Mortgage and Housing Corporation, rendering it ill-suited to coordinating policy regarding overall financial stability.[352] FISC does however also convene, occasionally alongside provincial securities regulators and CMHC, under the Senior Advisory Committee, which is chaired by the deputy finance minister. Were financial stability to be formally articulated in SAC's mandate, as well as those of its members, this could form the foundation for even more effective macro-prudential oversight at the national level.[353]

While Canada fared better in the recent crisis than the United States and United Kingdom, this also indicates that any excessive systemic financial sector risk might remain as-yet obscured. The danger of this only increases as 'hot money' seeks a safe haven in Canada's adulated financial sector, especially the booming Canadian real estate market. An apt analogy might be the passengers on a sinking ship attempting to rush into a single lifeboat, with the risk of overturning the lifeboat itself. As such, the role of macro-prudential oversight is of vital importance not only for recovering economies but also for countries, like Canada, seeking to avoid a repeat of the crisis.

6.2 Housing and Financial Asset Bubble

It might be presumed that Canada's broad and deep economic integration with the United States would make the country more susceptible than others to the bursting of the US housing bubble. However, significant differences in mortgage market governance have helped Canada avoid the exposure to mortgage-backed securities seen in the US, UK, and

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[351] Christopher Ragan, "Financial Stability: The Next Frontier for Canadian Monetary Policy," *C.D. Howe Institute Commentary* no. 338 (2012): 7.
[352] Ragan, "Financial Stability," 9.
[353] Ragan, "Financial Stability," 9.

Iceland. Unlike in the US, mortgage interest payments in Canada are not tax-deductible.[354] Canadian mortgage-holders are also required to repay the full amount of their mortgage even in foreclosure, and this "full recourse" is enforceable through asset seizure or wage garnishing. This factor alone has been argued to reduce the rate of delinquency even as Canadian house prices decline.[355]

Roughly 70% of Canadian mortgages are funded through deposits by large deposit-taking institutions. Mortgage loans representing more than 80% of the property's value are required by law to be insured. Privately insured loans receive a 90% guarantee by the Canadian government, while loans insured with the Canadian Mortgage and Housing Corporation (CMHC) have a full government guarantee, and are thus considered 'risk-free' for purposes of securitization.[356] Securitization of CMHC-guaranteed mortgages began in 1987 through the National Housing Act Mortgage Backed-Securities program. CMHC also operates the Canada Housing Trust, which issues Canada Mortgage Bonds and uses the proceeds to purchase NHA-MBS's.[357] Canada thus has in place institutions similar to the American FNMA (Fannie) and FHLMC (Freddie), except that they are fully owned and explicitly guaranteed by the Canadian government.

Canada's mortgage market is dominated by the CMHC, a crown corporation wholly owned by the Canadian government and which is a direct conduit for government housing policy. The CMHC is operated on a commercial basis with the expectation of being self-funding through competitive default coverage on an actuarial basis. It is thus a crown corporation operated as a for-profit business. Like other insurers, the CMHC is required to pay any shortfall between foreclosure sale proceeds and the full value of an insured loan. CMHC represents about 70% of the Canadian mortgage insurance market,

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[354] Don Pittis, "Be Very Afraid of the Canadian Housing Bubble," *CBC News* April 16, 2012, accessed June 6, 2012. http://www.cbc.ca/news/business/story/2012/04/16/f-vp-pittis.html.
[355] International Monetary Fund, "Canada: Selected Issues Paper," 15-16.
[356] International Monetary Fund, "Canada: Selected Issues Paper," 17.
[357] Jean-Francois Nadeau, *The Insured Mortgage Purchase Program* (Ottawa: Parliamentary Information and Research Service, 2009), 1, accessed June 1, 2012; International Monetary Fund, "Canada: Selected Issues Paper," 18.

insuring about half of outstanding mortgage debt in Canada.[358] Until recently CMHC reported to Parliament under the supervision of the Minister of Human resources. Unlike private mortgage insurers, CMHC was not supervised by the Office of the Superintendent of Financial Institutions (OSFI), Canada's financial regulatory authority. It nevertheless sets a target of twice the OSFI minimum capital requirements, and at last report was above this target.[359]

In April, 2012 the federal government tabled legislation to bring CMHC under OFSI supervision.[360] This is part of a broader government effort to cool Canada's booming housing market, which many argue is in danger of generating a debt-fuelled asset bubble if it has not already done so.[361] With the ratio of average home price to income in Canada is well above the historic average and household debt averaging over 150% of disposable income, OSFI also plans to tighten mortgage underwriting criteria for banks.[362] All of these details, however, describe a financial system which sees close coordination between public and private institutions. The guarantee of housing is an explicit liability of the Canadian government, and mortgage issuance and securitization has thus been much more strictly regulated in Canada than elsewhere. Moreover, the concentration of Canadian financial firms and their relatively conservative business practices have resulted in much less penetration of Canadian financial markets by subprime mortgages and over-the-counter (shadow banking) securities. Canada's financial sector and regulatory framework thus favour long-term stability and growth over competition and financial innovation. It also imposes more comprehensive and active government oversight of financial institutions in recognition of their systemic importance, in exchange for the right to operate as an essentially oligopolistic cartel.

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[358] International Monetary Fund, "Canada: Selected Issues Paper," 17.
[359] International Monetary Fund, "Canada: Selected Issues Paper," 18.
[360] Gordon Isfeld, "Canada's Banking Watchdog to Oversee Housing Agency," *Financial Post*, April 26, 2012, accessed June 12, 2012. http://business.financialpost.com/2012/04/26/osfi-to-supervise-cmhc/.
[361] Pittis, "Be Very Afraid of the Canadian Housing Bubble."
[362] Allan Crawford and Umar Faruqui, "What Explains Trends in Household Debt in Canada?" *Bank of Canada Review* (Winter 2011-2012): 3. http://www.bankofcanada.ca/wp-content/uploads/2012/02/boc-review-winter11-12-crawford.pdf; Isfeld, "Canada's Banking Watchdog to Oversee Housing Agency."

6.3 Financial Crisis

Canada did experience a financial crisis along with other developed countries. Confidence in Canadian banks' solvency, as implied by lending rates and Credit Default Swap prices, did show a marked increase along with their foreign counterparts. However, Canadian banks did not suffer from the liquidity shortages afflicting American and European financial institutions through late-2007 and early-2008.[363] No Canadian bank failed during the financial crisis, nor was there the flood of mortgage defaults as seen in the United States. Interbank lending rates in Canada did increase alongside those in the US and Europe, but to a far lesser extent.[364] Canadian banks also did not exhibit the degree of liquidity hoarding observable in other banks starting with the announcement of losses at BNP Paribas in early August 2007.[365] While some hoarding occurred in the period directly following Lehman's collapse in September 2008, Canadian banks returned to pre-crisis lending and borrowing patterns after December, 2008.[366]

Canadian banks made relatively conservative use of liquidity auctions, especially compared to European banks, offered by the Central Bank from late-2007 and early-2008. Moreover, Canadian banks only made limited use of the "bailout" government purchase of MBS after January, 2009, when American and European banks were still scrambling for liquidity.[367] This relatively conservative liquidity-seeking behaviour indicates "that participants did not believe there were significant liquidity or counterparty risks."[368] The crisis of confidence in the general financial sector which served as such a driver – and amplifier – of the financial crisis elsewhere was thus largely absent in Canada.

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[363] Allen, Jason, Ali Hortaçsu, and Jakub Kastl. "Analyzing Default Risk and Liquidity Demand during a Financial Crisis: the Case of Canada." *Bank of Canada Working Paper Series* (2011): 3, accessed June 5, 2012, http://publications.gc.ca/collections/collection_2011/banque-bank-canada/FB3-2-111-17-eng.pdf.
[364] Emanuella Enenajor, Alex Sebastian and Jonathan Witmer, "An Assessment of the Bank of Canada's term PRA Facility," *North American Journal of Economics and Finance* 23 (2012): 123.
[365] Allen et al., "Analyzing Default Risk and Liquidity Demand," 14.
[366] Allen et al., "Analyzing Default Risk and Liquidity Demand," 16.
[367] Nadeau, 6.
[368] Allen et al., "Analyzing Default Risk and Liquidity Demand," 1.

6.4 Financial Intervention

It is not strictly speaking true that "the Canadian government did not bail out its banks," however the execution of these "bailout" loans was both more conservative and more concerted than the haphazard process seen in the US and Europe. During the global financial crisis the Canadian government approved the Insured Mortgage Purchase Program (IMPP), a scheme to loan CMHC the money to finance up to $125 billion in NHA-MBS from Canadian banks.[369] The Canadian government funded this loan by issuing debt instruments such as bonds, increasing the total outstanding government debt on such instruments by about 30%, to about $520 billion. However, the interest on these instruments constituted the minimum bid yield in actual IMPP auctions.[370] This means that the program will be revenue-neutral in the long-term and should in fact produce revenue as many bids were over the minimum yield.[371]

Initially set at $25 billion in October, 2008, the program expanded along with the crisis, reaching $75 billion in November. The 2009 budget finally increased the available credit to $125 billion.[372] This allowed banks to increase the proportion of liquid assets on their balance sheets by offloading hard-to-sell MBS. However, unlike the American bank bailouts under TARP, the assets purchased by CMHC were all already insured either privately or through CMHC and thus guaranteed by the government. The American policy response was first to inject capital into insolvent institutions, then to buy those institutions highest-risk, and therefore least valuable, assets. The Canadian response provided banks with liquidity in exchange for their lowest-risk assets: mortgages already guaranteed against default by the government.[373] The Canadian government was thus able to provide banks with greater liquidity to see them through the crisis without adding 'toxic assets' onto its balance sheet.

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[369] International Monetary Fund, "Canada: Selected Issues Paper," 19.
[370] Nadeau, 3.
[371] Nadeau, 2.
[372] Nadeau, 1.
[373] Nadeau, 5.

The efficacy of IMPP in easing banks' liquidity constraints in order to facilitate lending and stimulate the economy is difficult to directly gauge. In Q4 2008, household credit extended by banks increased by just over $50 billion, twice what the CMHC purchased in that period.[374] Bank lending in Canada never experienced the panicked contraction it saw in the US and elsewhere, and the IMPP reinforced this confidence in liquidity access on the part of financial institutions.

6.5 Monetary Policy Response

The Bank of Canada responded with standard liquidity injections in the second half of 2007. By the end of 2007 Canada joined the Federal Reserve, Bank of England, Swiss Bank, and the European Central Bank in introducing term auction facilities (bidding on short-term loans) to increase liquidity.[375] These facilities were allowed to expire as markets calmed after December, 2007 but were reintroduced in March, 2008 in response to the collapse of Bear Stearns.[376] It bears noting that Canada's term Purchase and Resale Agreement (term PRA) facility was slightly different from its American counterpart in the Fed's Term Auction Facility (TAF). Term PRA auctions required winning participants to pay the interest rate at which they bid, whereas TAF participants had only to pay the lowest accepted rate at auction regardless of their initial bid.[377] This made Canadian liquidity facilities more conservative and less generous to banks than their American counterparts.

After the collapse of Lehman Brothers in September 2008, interbank lending rates in Canada jumped upward as global credit evaporated and the Bank of Canada took on a more important role as a provider of short-term liquidity.[378] As part of the G7 action plan, term auctions increased in value and frequency, peaking at 2% of the total value of

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[374] Nadeau, 7.
[375] Allen et al., "Analyzing Default Risk and Liquidity Demand," 2.
[376] Enenajor et al., "An Assessment of the Bank of Canada's term PRA Facility," 126.
[377] Enenajor et al., "An Assessment of the Bank of Canada's term PRA Facility," 124.
[378] Allen et al., "Analyzing Default Risk and Liquidity Demand," 7.

financial industry assets (compared to 7% in the US and 5% in the Eurozone).[379] The expansion of acceptable collateral for government lending under IMPP also eased liquidity problems for institutions holding less-valued, but nevertheless low-risk, MBS assets.[380] However, unlike elsewhere this period of extreme risk-aversion did not last beyond 2008.[381] Canadian interbank markets had largely calmed by April, 2009, when the Bank of Canada lowered the prime interest rate to the effective lower bound and pledged to maintain that level for one year. Throughout 2009 Canadian funding markets continued to improve, term PRA operations shrank in size, term, and issue frequency until they were phased out starting in April 2010.[382]

Researchers have found "robust evidence" that announcements of term PRA facilities contributed to lowering liquidity premiums for Canadian banks, encouraging lending by reinforcing confidence in short-term funding markets.[383] The role of monetary policy in moderating economic cycles is well founded in Canada. Canada was the second country to implement a formal inflation target in 1991, and the Bank of Canada has employed monetary policy since that time to keep the interest rate very near its stated goal of 2%. Emphasizing the evolution of monetary policy as a response to economic disruptions, Christopher Ragan argues that this expansion of the Bank of Canada's role "would not have happened without the shocks and policy mistakes and learning that occurred over the previous 30 years."[384]

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[379] These figures according to Allen et al. More Conservative estimates by Enenajor et al. put the proportion of total banking assets at term auction peaks at 1.2% and 2.7% for Canada and the US, respectively, Enenajor et al. 126.
[380] Allen et al., "Analyzing Default Risk and Liquidity Demand," 9.
[381] Enenajor et al., "An Assessment of the Bank of Canada's term PRA Facility," 127; Allen et al., "Analyzing Default Risk and Liquidity Demand," 11.
[382] Enenajor et al., "An Assessment of the Bank of Canada's term PRA Facility," 127.
[383] Enenajor et al., "An Assessment of the Bank of Canada's term PRA Facility," 141.
[384] By this Ragan means the years prior to Canada's adoption of explicit inflation targeting in the early 1990's. Ragan, "Financial Stability," 3.

6.6 Fiscal Policy Response

As a compliment to expansive monetary policy, and the IMPP designed to shore up the financial system, the Canadian government also embarked on an ambitious fiscal stimulus program. Canada's Economic Action Plan provided $47.2 billion in areas including: construction and home building incentives; transportation infrastructure, and; lowering corporate and individual taxes.[385] Initiatives included personal income tax relief and infrastructural projects, many of which have been undertaken in partnership with the provinces. The government earmarked $14 billion in corporate tax incentives and subsidies, and of this $9.7 billion was used to bail out the automotive industry. Initiatives by provincial governments added over $14 billion to the total government stimulus spending in Canada.[386]

The government claimed credit for the upswing in economic growth in the second half of 2009, following three consecutive quarters of negative growth. However, a study by the Fraser Institute published in 2010 attributed less than 10% of the increase in growth to the stimulus program, instead crediting business investment and net exports.[387] This report itself came under fire from industry leaders such as the Construction Sector Council. They disagreed, arguing that the study was flawed in its conclusion that fiscal stimulus was ineffective because it ignored the 2-3 year time horizons for rolling out major projects. The study was also criticized for ignoring the less-quantifiable effect stimulus spending - especially infrastructural spending – has on business confidence in the private sector.[388] The report also overlooked the effect of stimulus in maintaining lower unemployment in the recession-prone construction industry, which results in lower spending on automatic stabilizers such as employment insurance.[389]

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[385] Amela Karabegovic, Charles Lammam and Niels Veldhuis, "Did Government Stimulus Fuel Economic Growth in Canada? An Analysis of Statistics Canada Data," In *Fraser Institute Research Studies*, March 23, 2010, accessed July 2, 2012. http://www.fraserinstitute.org/research-news/display.aspx?id=15912.
[386] Karabegovic et al., "Did Government Stimulus Fuel Economic Growth in Canada?"
[387] Karabegovic et al., "Did Government Stimulus Fuel Economic Growth in Canada?"
[388] Richard Gilbert, "Report Slags Stimulus Spending," *Journal of Commerce* 26 (March, 2010): 1, *ProQuest*, accessed July 3, 2012, http://search.proquest.com.proxy2.lib.uwo.ca:2048/docview/903514463.
[389] Gilbert, "Report Slags Stimulus Spending," 2.

With Canadian growth slowing in response to prolonged weak global demand in the United States, Europe, and Asia, the impulse may arise for additional fiscal stimulus. However even those on the left have argued that additional stimulus would add little to the economic benefits presently derived from easy monetary policy and the ample liquidity in the financial system. It has been pointed out that stimulating home ownership would if anything be counterproductive, given the currently expanding housing asset bubble and over-indebted household balance sheets.[390] Currently high levels of unused production capacity in light of uncertain future demand mean that investment stimulus would also result in little additional output. Companies are already sitting on unused plant and liquid capital which they hesitate to employ, they do not require more from the government. Finally, tax cuts have been argued to be an inappropriate means of short-term economic stabilization due to the long time horizons required to realize their stimulative economic effects.[391]

While those on the left and right disagree regarding the effect of government stimulus along ideological grounds, and neither would advocate its further extension, it is probably safe to say that the stimulus program had at most a modest effect on Canadian growth. However, the American experience demonstrates that even massive stimulus spending will not generate wide scale economic recovery in the absence of more broad-based credit availability and business confidence. In this regard, the government's effective monetary policy response, and especially the perception of stability of Canadian banks throughout the crisis, can be credited with the return to economic growth much more than can Fiscal Stimulus.

6.7 Economic Recovery

Gordon Isfeld puts the causes of Canada's relatively strong performance through the crisis and recession succinctly, crediting "a timely macro-economic policy response and a

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[390] Al Chatterjee, "Canada Does Not Require Fiscal Stimulus," *Policy Options* (May 2012): 44, accessed June 18, 2012. http://www.irpp.org/po/archive/may12/chatterjee.pdf.
[391] Chatterjee, "Canada Does Not Require Fiscal Stimulus," 45.

solid banking sector."[392] Canadian policies correlate to markedly better economic performance than other developed countries following the restoration of market confidence by 2010. All major Canadian industries except utilities posted gains in 2010. Manufacturing, wholesale trade, and minerals extraction all grew at or just over 5% in 2010 while retail, transportation, and the financial sector also grew as a result of these primary activities.[393] Spillovers from the drop in global demand kept exports steady at just under 30% of nominal GDP, from a pre-recession level of 35%.[394] Excluding housing, business investment continued to lag and was dominated by construction of energy infrastructure. Construction was the strongest contributor to GDP growth in 2010 at 8.1%, reflecting Canada's booming real estate market. Indeed, by 2011 the share of GDP represented by residential construction has scarcely fallen from its 2007 peak.[395] The heavy role of construction in Canada's economic recovery carries inherent risks however, as outlined in the section on Canada's housing bubble above.

Canada benefited from a sound financial system and prompt government policy response in the financial crisis and recession of 2007-2009. The national savings rate was 13.8% heading into the recession, compared to less than 1% in the US.[396] Its economic growth has continued at relatively high levels compared to other developed economies thanks to capital flight into Canada's 'safe' financial sector, continuing high commodity prices, and the acceleration of debt-driven consumption by the public and subsequently private sectors. However, these factors complicate Canada's position moving forward. The

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[392] Gordon Isfeld, "Canada's Biggest Risks to Economy are Internal, OECD Warns," *Financial Post*, June 13, 2012, accessed June 20, 2012, http://business.financialpost.com/2012/06/13/canadas-biggest-risks-to-economy-are-internal-oecd-warns/.
[393] Statistics Canada, "Chapter 9: Economic Accounts," 118.
[394] Todd Hirsch, "Canadian Exporters Between a Rock and a Hard Place," *Policy Options*, September, 2010, accessed January 26, 2012. http://www.irpp.org/po/archive/sep10/hirsch.pdf; Statistics Canada, "Chapter 9: Economic Accounts," 118.
[395] Statistics Canada, "Chapter 9: Economic Accounts," 119.
[396] Statistics Canada, "Chapter 9: Economic Accounts," 120.

government is wisely trying to curb excessive financial speculation, especially in the overheated housing market.[397]

Canada entered a trade deficit in late 2008, as commodity prices increased while demand for manufactures like automobiles dropped worldwide. The deficit widened in both 2009 and 2010, reflecting a faster recovery in domestic spending than in other developed economies. As government spending subsided, domestic demand was supported by increased household borrowing.[398] Here again, economic growth masks the increasingly leveraged nature of the Canadian economy. Canada's economy is deeply dependent on exports, which represent almost 30% of GDP. However, exports averaged over 38% of GDP from 2001-2007. That is a higher proportion than any other case study in this paper, although the proportion of exports in the UK (30.1%) and Icelandic (56%) economies have since surpassed Canada's.[399] The financial turmoil in other developed economies has also hurt Canadian exports through currency appreciation, as Canada loses ground in the American market to lower-cost exporters such as China and Mexico.[400]

Canada is the only economy considered in this paper to have been running a consistent trade surplus at the onset of the crisis financial. By 2007, Canada had run a trade surplus every year since 1999. With the exception of Iceland from 1993-1995, no other economy in this paper posted a trade surplus in any year from 1991-2011.[401] The lower reliance on debt for economic growth in Canada improved its ability to deal with a credit crisis compared to the other economies outlined in this paper. Canada may have had more flexibility in maintaining conservative lending practices due to the availability of non-debt capital resulting from the trade surplus. Canada's continued economic growth since

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[397] Allan Crawford and Umar Faruqui, "What Explains Trends in Household Debt in Canada?" *Bank of Canada Review* (Winter 2011-2012): 3. http://www.bankofcanada.ca/wp-content/uploads/2012/02/boc-review-winter11-12-crawford.pdf.
[398] Statistics Canada, "Chapter 9: Economic Accounts," 119.
[399] The figure for Iceland is particularly interesting and reflects the collapse of credit-fuelled domestic demand. Icleand's exports as a proportion of GDP ballooned to above 50% in 2009 after steadily averaging roughly 34% from 1991-2007. This figure also demonstrates the effect of currency devaluation in stimulating exports. World Bank, "World Databank."
[400] Boivin, "The 'Great' Recession in Canada," 5.
[401] World Bank, "World Databank."

the crisis has been largely debt-fuelled as a result of dropping global demand, especially among resource-importing Asian economies such as China.[402]

The credit-fuelled global economic boom of the early-2000's, especially in commodities, fuelled Canada's trade surplus from 1999-2007, providing the fiscal stability to withstand the financial crisis. This subjects Canada's growth to the risk of continuing subdued demand as the recession moves down through the global supply chain – initially striking consumer economies in Europe and the US, then transmitting through demand spillovers to the manufacturing economies of Asia. The European sovereign debt crisis, combined with high commodity prices, has prolonged the recession in Europe while dampening American and Asian market confidence and growth.[403] Should this trend continue, Canada will experience a similarly slow recovery, which until now has been avoided by 1) the flexibility in policy response capacity due to Canada's sound finances going into the credit crisis, and; 2) the time lag inherent in demand spillovers due to Canada's position within global supply chains.

The danger is that another market collapse with global ramifications, as seems plausible if not yet probable in Europe, will find Canada much more indebted than it was in 2007. This would reduce the capacity for monetary and fiscal stimulus, as well as the capacity for households to temporarily fund consumption through debt. Canada would then find itself in a position similar to those of the US and UK in 2007-2009, with credit availability and economic growth dragging each other down in a self-reinforcing manner. In the absence of global economic recovery, Canada can only sustain growth through debt for so long, regardless of the strength and values of its financial system. This illustrates the deeply integrated nature of the global economy. Given that the global recession was initiated by the financial imbalances and malfeasance illustrated so far in

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[402] Statistics Canada, "Chapter 9: Economic Accounts," 119; BBC World News, "China's Data Underlines Economic Slowdown," May 11, 2012, accessed June 22, 2012. http://www.bbc.co.uk/news/business-18030674; Reuters, "Global Economy – Outlook Darkens as Europe Sinks, China Struggles," June 21, 2012, accessed June 22, 2012. http://in.reuters.com/article/2012/06/21/economy-global-idINL5E8HL42620120621.

[403] Chatterjee, "Canada Does Not Require Fiscal Stimulus," 43.

this paper, the logical conclusion is that financial governance on a global scale is crucial in preventing such a crisis in the future.

It is clear that the conditions underlying Canada's strong position moving into the crisis are not entirely endogenous or suggestive of a general 'Canadian superiority.' A degree of luck in the timing of the crisis, and Canada's resource-driven economy, played a role in Canada's ability to withstand the crisis. Nevertheless, the Canadian case demonstrates the value of all four policy variables examined in this paper. Timely financial interventions provided liquidity during the worst phases of the financial crisis, though no banks faced immediate failure requiring forced mergers or nationalization. Monetary and fiscal stimulus supported demand and contributed to a more prompt resumption of growth. Finally, sound financial governance comprising countercyclical capital accumulation by banks and a long history of public-private regulatory coordination encouraged informational transparency in evaluating risk. This was amplified by the fact that most financial activity in Canada falls within the regulated banking sector under one of the six main banks, reducing exposure to either the American or domestic subprime MBS markets. Canadian banks have been "too big to fail" for decades, but regulatory coordination and strong corporate governance have prevented any from doing so in that time.

7 Summing Up

The financial crisis prompted aggressive government response in four main areas. First was an increase in short-term liquidity through the lowering of interest rates, as exemplified by the lowering of the US prime lending rate by the Fed from 5.25% in September 2007 to .25% by September 2008.[404] However credit has become much more expensive despite this easing, and households and businesses still face tightened credit standards which has led some to argue that monetary policy is ineffective in containing a crisis of this scale.[405] The second main government response has been to recapitalize

[404] Mishkin, "Is Monetary Policy Effective During Financial Crises?"573.
[405] Mishkin, "Is Monetary Policy Effective During Financial Crises?" 573.

systemically important, or "too big to fail," banks as "quasi-public institutions."[406] The third response has been a general fiscal expansion, much more so in the United States than in Europe, to further stimulate the economy once interest rates neared 0%.[407] The fourth, most long-term and as-yet little realized response has been that of domestic and international financial reregulation.

Shortcomings in policy response have generally been in slow acknowledgment and engagement of the (admittedly rapidly escalating) problems, for instance the US governments' allowing Lehman Brothers to fail in 2008 and ad hoc approach to TARP, which sparked the initial global panic. Other examples include the muted pace of monetary and fiscal stimulus in Europe as compared to the US and China, which has contributed to the European sovereign debt crisis, and the halting momentum of financial reregulation in the US compared to Europe.[408] Market analysis has demonstrated three trends in the effects of governments' responses to the crisis. One is that comprehensive, economy-wide policies are necessary and that "policy actions that are perceived to be ad hoc or targeted at individual systemic institutions tend to exacerbate market fears..."[409] The second main finding is that a coordinated response among states is crucial, and that foreign policy responses strongly affected domestic interbank markets in affected economies as "international spillovers of policy announcements intensified as the crisis deepened."[410] Finally, while macroeconomic monetary and fiscal policy response by governments filled short-term liquidity gaps, they did not ameliorate the general lack of trust fuelling market volatility.

While helpful in mitigating the depths of the ensuing recession, no government actions could have been realistically expected to prevent the global financial crisis once it began to unfold. Moreover, policy responses of the type described can only be maintained in the short-term, as the state institutions which were responsible for preventing a recession

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[406] Luiz Carlos Bresser-Pereira, "The Global Financial Crisis and a New Capitalism?" *Journal of Post-Keynesian Economics* 32 no. 4 (2010): 525.
[407] Bresser-Pereira, "A New Capitalism?" 525.
[408] Bresser-Pereira, "A New Capitalism?" 526.
[409] Aït-Sahalia et al., "Market Response to Policy Initiatives," 23.
[410] Aït-Sahalia et al., "Market Response to Policy Initiatives," 23.

from becoming a depression have become highly indebted in the process, so that "continued fiscal expansion faces limits and poses dangers."[411] The only effective remedy for a systemic financial crisis of the scale recently seen is thus prevention through prudent financial governance, the basis of which is effective financial regulation.

7.1 Financial Regulation, Deregulation, and Oversight

Three problems with current regulation have been consistently pointed out. First, most national regulatory frameworks focus primarily on micro-prudential governance – limiting the risk exposure of individual firms without considering aggregate risk in the broader financial system. For example, SIV's were not subject to risk-based capital charges under Basel II. This form of arbitrage allowed institutions to engage in what was considered a low-risk activity at the individual level, but which destabilized the entire system when undertaken simultaneously by many – especially dominant - firms.[412] This process is prevalent in the US, UK, and Iceland cases. While Greek debt did not balloon due to financial innovation, the misrepresentation of government debt until 2009 correlates to the misleading balance sheets of private financial institutions elsewhere. Second, low inflation and economic stability through the 1990's and early 2000's affected statistical risk measures, leading to the underestimation of risk premiums, excessive risk taking, and eventually asset price bubbles. Finally, regulators have often failed to enforce existing regulations.[413] This is visible in the US, UK, and Iceland cases in the form of lax regulatory governance by national governments and central banks, and in the case of Greece through insufficient oversight by Eurozone governance bodies including the European Central Bank.

The deregulation of banking in the United States from 1980 to 2004 allowed the massive increase in systemic risk, via opaque financial products which obscured counterparty risk.

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[411] Bresser-Pereira, "A New Capitalism?" 527-28.
[412] Goddard et al., "The Crisis in UK Banking," 278.
[413] Kaufman and Malliaris, "The Financial Crisis of 2007-2009," 338.

This created a more fragile network of debt obligations while mergers and consolidation – also allowed by deregulation – simultaneously created firms which were too systemically important to be allowed to fail. In the European case, monetary integration made even small economies like Greece "too big to fail," while denying them the monetary and fiscal autonomy to mitigate economic shocks. The concurrent allowance of riskier practices under Basel II extended this process worldwide, as increasing leverage allowed debt-financed mergers and takeovers in Europe as well. Iceland and the UK thus also saw financial firms' balance sheets grow enormously. Easy credit also translated into lower borrowing costs not just for banks, but also for national governments such as Greece.

7.2 Financial Interventions

Financial interventions and bailouts have been necessary to mitigate the financial collapse in all cases examined in this paper. The US and UK saw the recapitalization, nationalization, or forced merger of several large and systemically important financial institutions. Iceland faced financial collapses of such magnitude that state intervention was not an option. Even Canada took measures to inject liquidity into banks in exchange for illiquid, yet stable, assets. Iceland's default on its foreign debt has not so far resulted in the threatened exclusion from international lending. However firms and governments in systemically important countries do not have this luxury, due to the global havoc such defaults would unleash. It is thus apparent that, like financial institutions, some countries are 'too big to fail,' while others are not.

7.3 Transmission of the Crisis

The transmission of the crisis was a direct result of global financial integration, specifically the international cross-holding of debt among financial firms. Research has shown that such financial integration "produces a significant increase in net debt for the

most financially developed [countries].”[414] Moderate shocks to firm equity in these areas can trigger systemic asset price corrections. This process of contagion is seen in the way the US crisis spread almost instantly around the world, including to the UK, Canada, and Iceland. It also applies to Greece in the sense that national debt experienced a price correction as investors’ risk appetite shrank and demand plummeted.

7.4 Monetary Policy Response

The financial crisis and recession prompted unprecedented expansion in monetary policy in the US, UK, and Canada. In all cases this eased pressure on banks’ balance sheets, which allowed them to borrow from the government at lower rates, but did not on its own trigger resumption of normal lending by banks. Monetary expansion thus helped mitigate the financial crisis, and thus indirectly lessened spillovers into the real economy by stabilizing the financial sector. However, monetary expansion did not stimulate the resumption of normal economic activity, through increased investment, as is assumed by Keynesian theory. Iceland, the only country to allow all systemically important banks to fail, has since lowered interest rates and in fact resumed economic growth. This suggests that the Keynesian prescription for monetary expansion is useful in stimulating economic growth, in the absence of liquidity hoarding and severe debt burdens within the financial sector. Greece was unable to undertake monetary expansion due to its Eurozone currency membership, and in contrast to Iceland has suffered continued economic contraction. This reinforces the link between monetary stimulus and the resumption of growth in recession.

7.5 Fiscal Policy Response

Keynesian economic theory prescribes government spending to stimulate domestic demand and mitigate contractions in economic activity. In the cases in this paper, fiscal expansion to combat the recession was generally circumscribed by the marketability of

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[414] Enrique G. Mendoza and Vincenzo Quadrini, “Financial Globalization, Financial Crises and Contagion,” *Journal of Monetary Economics* 57 (2010): 37.

government debt, with the exception of the UK. The American and Canadian cases provide the strongest examples of fiscal stimulus. The governments of these countries were able to undertake this due to the availability of borrowing (continued demand for government bond issues), as well as sound public finances following years of budget surpluses and debt repayment in the case of Canada.

The UK could arguably have undertaken stimulus as well, however the political exigency of the 2010 general election which resulted in a Conservative-led coalition government. Iceland was unable to engage in fiscal expansion due to the collapse of revenues following the economic contraction and the cost of recapitalizing the Central Bank. Subsequent Icelandic economic growth has instead stemmed from currency devaluation and strong international demand for natural resources. Greece has been prevented from pursuing fiscal stimulus as spending cuts are a condition of its continued rescue loans. The more pronounced resumption of economic growth in Canada and the US as compared to Greece and the UK thus support the Keynesian prescription of deficit spending (if available) through fiscal stimulus. Iceland's fate remains to be seen, and further growth will depend upon the continuation of international commodity demand and the effects of planned spending cuts which have yet to be enacted.

Variable	**United States**	**Iceland**	**United Kingdom**	**Greece**	**Canada**
Fiscal Stimulus	yes	no	no	no	yes
Monetary Stimulus	yes	no	yes	no	yes
Financial Interventions/Bailouts	yes	no	yes	no	yes
Financial Governance	weak	very weak	moderate	n/a	strong
Informational Transparency	weak	very weak	weak	very weak	strong
shadow banking exposure	high	high	high	n/a	low
Severity of Financial Crisis	high	high	high	n/a	low
commodity/export dependence	low	high	low	low	high
Economic Recovery	weak, slow	moderate, slow	weak, slow	ongoing crisis	strong, rapid

Table 1 Policy Variables and Findings

8 Conclusions

8.1 Global Financial Governance

Financial stability in a globalized world necessarily involves international coordination. The experience of the Great Depression and Second World War led to the creation of the international Bretton Woods institutions, which coordinated and promoted free trade, financial stability and development.[415] Following the Asian financial crisis the IMF, if weakly, reiterated the lessons of the Great Depression by characterizing global financial stability as a "global public good."[416] In the absence of a global government to provide such a public good, the G20 has emerged as a global governance forum representing over 85% of world population and 66% of global GDP. Yet despite this and other coordinating bodies such as the Bretton Woods institutions and the newly-created Financial Stability Board (FSB), "there is no effective international mechanism" to ensure compliance with internationally-agreed upon recommendations at the national level.[417]

Central Banks participate in the Bank for International Settlements' Basel Committee on Banking Supervision. The Basel committee creates policy recommendations, new versions of which were recently accepted by the G20. Regulations must be institutionalised at the national level, under the oversight of the Financial Stability Board. Due to the consensual basis of international relations and governance, the effectiveness of fora such as the FSB and Basel committee require "the authority and the political will" to implement policies. Canada, the United States and the European Union all subscribe to Basel II, although Canadian domestic capital requirements are more strict than formally required under the treaty.

Canadian rules prohibit an official risk-weighted capital-to-asset ratio greater than 20:1. Crucially though, American regulations do not include off-balance sheet activities in this

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[415] Fariborz Moshirian, "The Global Financial Crisis and the Evolution or Markets, Institutions and Regulation," *Journal of Banking and Finance* 35 (2011): 505.
[416] Moshirian, "Evolution or Markets, Institutions and Regulation," 506.
[417] Moshirian, "Evolution or Markets, Institutions and Regulation," 506.

calculation.[418] Canada's regulatory framework thus directly mitigated the increase of leverage, through off-balance sheet activity, which so destabilized American and European commercial banks in the recent crisis. The Basel III reform proposals follow "in Canada's footsteps" by raising capital adequacy requirements for banks.[419] Basel III was actually developed as a response to the global financial crisis, with the intention of increasing prudence in liquidity management and bolstering counterparty confidence in case of crisis.[420] However these reforms are still not as strict as Canadian domestic regulations regarding minimum capital-asset ratios, or in their definition of what qualifies as an 'asset.'[421]

8.2 Micro-prudential Solutions

Firm-level regulation is not sufficient to prevent systemic risk, but can be used to discourage its origins. Moral hazard generated by "originate-to-distribute" requires "better aligning the interests of mortgage lenders and investors," for instance requiring firms to hold onto part of their loans (as is the case in Canada) so that they face part of the risk they generate. Incentives for overzealous risk-taking by executives could be mitigated by compensation structures with longer time horizons.[422] The extension of greater government intervention at the institutional (micro) and systemic (macro) levels faces political resistance from neoliberal free market advocates. These critics rightly point out the danger of moral hazard, stemming from public guarantees which encourage excessive risk-taking.[423] The massive interventions required to stabilize the recent financial crisis are the result of exactly this type of moral hazard. Goddard *et al.* argue that "the system has been underwritten by a huge but previously implicit public subsidy,"

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[418] Leblond, "Canada, the European Union, and Transatlantic Financial Governance," 69.
[419] Canada's newfound authority in matters of financial stability is apparent in the appointment of the Bank of Canada's governor, Mark Carney, as the chair of the Financial Stability Board in November, 2011.
[420] Bank of Canada, "Financial System Review," 35, December, 2011, accessed January 29, 2012. http://www.bankofcanada.ca/wp-content/uploads/2011/12/fsr_1211.pdf.
[421] Leblond, "Canada, the European Union, and Transatlantic Financial Governance," 70.
[422] Schwarcz, "Understanding the Subprime Financial Crisis," 71.
[423] Kevin Dowd, "Moral Hazard and the Financial Crisis," *CATO Journal* 29 no. 1 (2009): 142.

whereby banks exploited their systemic importance to expand their balance sheets "recklessly."[424]

Broadly speaking, five options exist for dealing with the problem of financial institutions which are systemically "too big to fail," relating to the problem of moral hazard. The first option is to limit the size of financial institutions. The second is to set capital requirements which mitigate the likelihood of illiquidity and thus failure. Third, commercial and investment banking could be re-separated as they were under Glass-Steagall. A fourth option is to standardize resolution regimes to permit effective and predictable regulatory intervention in failing banks. The final, and so far most popular, proposal is improved systemic risk monitoring and supervision, or macro-prudential oversight. These are all politically contentious, and none but the last have gained wide popularity due to their inherent government constraints on the private financial sector and the lack of "clear evidence that they would have helped to avoid the recent crisis."[425] If anything, regulators have most strongly favoured the last proposal because it implies they were constrained in their mandate, and thus failed to prevent the crisis due to shortcomings in policy rather than performance.[426]

Limiting the size of institutions and separating commercial and investment banks may seem intuitively appropriate, however Canada has a large concentrated financial sector which has allowed universal banking for decades. Standardizing resolution regimes, as undertaken in the US and UK in response to the crisis, will help to mitigate extended market panic during a crisis but will do little to prevent the buildup of systemic risk. Enforced (and self-imposed) capital adequacy requirements and comprehensive regulatory oversight are the defining characteristics that set Canada's financial system apart. Banks can be large and diversified, but only if they are transparent regarding their activities, degree of leverage, and thus vulnerability to asset depreciation, liquidity shocks, etc. The moral hazard implicit in 'too-big-to-fail' can only be addressed by the

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[424] Goddard et al., "The Crisis in UK Banking," 282.
[425] MacNeil, "The Trajectory of Regulatory Reform in the UK," 495.
[426] MacNeil, "The Trajectory of Regulatory Reform in the UK," 490.

explicit input of all stakeholders in corporate governance – including taxpayers. Kay goes so far as to argue that, "the banking system is part of the state... [it] holds a public monopoly on creating money i.e. the state allows private banks to say that their deposits are equivalent to real money backed by the [Central Bank]."[427]

8.3 Macro-prudential solutions

Ragan proposes two new roles of central governance in the interest of financial stability, "leaning" and "macro-prudential regulation." Leaning against financial excesses[428], is now much less controversial than it would have been during growth years. However, the problem remains that using interest rates to curb excesses will cause deviation from the inflation target – the interest rate instrument applies to the entire economy, and can cause unnecessary inflation if used to target imbalances in a specific narrow sector.[429] Sector specific regulation is argued to be the best solution in this case, leaving Central Bank monetary instruments free to pursue price stability.[430] Margin requirements (minimum down-payments and maximum amortization periods) for bubble-prone industries such as real estate have been advocated as a more appropriate tool for battling asset bubbles than economy-wide rises in interest rates and thus borrowing costs. Such tools were preferred by policymakers during the Keynesian heyday of the postwar period.[431] However, by requiring minimum levels of creditworthiness from borrowers, margin controls do carry the drawback preventing low-income households from accessing credit to buy their first home and begin building equity capital.[432]

"Macro-prudential" oversight arises from the need to oversee the financial system as a whole, rather than just individual institutions, and arises from the interconnectedness of

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[427] Kay, "UK Monetary Policy Change," 147.
[428] Financial excesses being define as "levels of asset prices and financial leverage that are deviating from their long-run trends, and... growth rates of monetary aggregates and credit flows that appear to be unusually large." Ragan, "Financial Stability," 6.
[429] Ragan, "Financial Stability," 6.
[430] Ragan, "Financial Stability," 7.
[431] Canova, "Financial Market Failure as a Crisis in the Rule of Law," 375.
[432] Canova, "Financial Market Failure as a Crisis in the Rule of Law," 377-78.

financial institutions.[433] This includes assessing potential sources of financial shocks and anticipating potential spillovers and positive feedback loops. It is here argued that a generally countercyclical policy is required to counter "the procyclicality of credit and leverage that is a natural aspect of the economic cycle."[434] This is consistent with the Canadian experience – Canadian corporate, public, and household finances all exhibited the most countercyclical behaviour in the lead-up to the financial crisis. While this has partially to do with the good fortune of a commodity-fuelled trade surplus, conservative corporate governance and the pursuit of a balanced budget since before 1999 also played a significant role.

8.3.1 The role of Regulation

The immediate cause of the financial crisis in the US and other industrial countries was the bursting of the residential real estate price bubble. Regulators allowed the bubble to grow while overlooking the excessive financial and economic leveraging which would amplify the damage of the bubble bursting. Existing regulations could have reduced or prevented both conditions, mitigating systemic risk.[435] Regulatory transparency and accountability is a prerequisite for any more effective regulation, including the recent proposals for regulatory reform by the Obama administration and the amendments to the international Basel accord under Basel III.[436]

At the national level, expanding the role of government intervention in the economy, even (perhaps especially) for the purpose of macro-prudential regulation, is politically contentious. As Canova states, "it is uncertain whether Congress and the president can muster the political will to impose regulation on such private centres of wealth, privilege, and power, which cross national borders."[437] As a counterpoint to the philosophical arguments against government intervention in the economy, it can be argued that the level of government intervention required in the face of a major financial crisis as seen

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[433] MacNeil, "The Trajectory of Regulatory Reform in the UK," 499.
[434] Ragan, "Financial Stability," 7.
[435] Kaufman and Malliaris, "The Financial Crisis of 2007-2009," 341.
[436] Kaufman and Malliaris, "The Financial Crisis of 2007-2009," 341-42.
[437] Canova, "Financial Market Failure as a Crisis in the Rule of Law," 396.

recently suggests that "a better policy framework now might well permit 'less' government later."[438]

A Common theme in many analyses of the financial crisis is the procyclical nature of crises spread through financial contagion and counterparty risk. Much recent research has therefore concluded that a countercyclical prudential approach is needed to mitigate the amplitude of business cycle fluctuations, generating smaller booms and much less severe busts.[439] Significantly, research has found that Canadian banks' follow a countercyclical approach to capital buffers, building up reserves in periods of growth which can be drawn upon during economic contractions.[440] Similar patterns are found in the German and Norwegian financial sectors, whose economies also weathered the financial crisis relatively well, while capital buffers have been found to be procyclical in other parts of Europe.[441] This lends credence to the arguments of countercyclical prudential advocates, and it has been argued that such an approach should form the basis of the Basel III amendments, to "correct the [procyclical] deficiencies in Basel II that exacerbated the subprime crisis."[442]

While widely seen as a move in the right direction, mandating countercyclical capital buffers faces political barriers at the international and domestic levels. Internationally, consensus will be difficult concerning restricting banks' growth among governments representing economies which are still in competition for capital and resources, despite growing global interdependence. Domestically, higher capital requirements will increase the cost of credit, "and while more regulation of banks has considerable appeal, more

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[438] Ragan, "Financial Stability," 14.
[439] Goddard et al., "The Crisis in UK Banking," 282; Also see Papa N'Diaye, "Countercyclical Macro Prudential Policies in a Supporting Role of Monetary Policy," *IMF Working Paper Series* Working Paper 09/257, 2009, accessed July 15, 2012, http://www.imf.org/external/pubs/ft/wp/2009/wp09257.pdf, and; Haocong Ren, "Countercyclical Financial Regulation," In *World Bank Working Paper Series* Policy Research Working Paper 5823, 2011, accessed July 15, 2012, http://www-wds.worldbank.org/external/default/WDSContentServer/IW3P/IB/2011/10/04/000158349_20111004135445/Rendered/PDF/WPS5823.pdf.
[440] Alaa Guidara, Van Son Lai and Issouf Soumaré, "Banks' Capital Buffer, Risk and Performance in Different Business and Regulation Cycles: Evidence from Canada," (July 14, 2011), 6, accessed July 12, 2012. Available at SSRN: http://ssrn.com/abstract=1934446 or http://dx.doi.org/10.2139/ssrn.1934446.
[441] Guidara et al., "Banks' Capital Buffer, Risk and Performance ," 4.
[442] Guidara et al., "Banks' Capital Buffer, Risk and Performance ," 7.

costly credit does not."[443] The prioritization of financial stability will require a negotiated political compromise concerning "societal preferences for stability over growth."[444]

8.3.2 The Limits of Monetary Policy

Schwarcz highlights that the role of the Fed as lender of last resort can fail to stabilize crises because so much contemporary corporate financing occurs directly through capital markets, rather than from banks and other financial intermediaries.[445] He proposes a second government-sponsored "liquidity provider of last resort", which could quickly purchase securities in order to stabilize irrationally panicked markets. Since these securities would be purchased at a discount, and the market for them subsequently stabilized, the costs of such a program would be lower than directly lending to troubled financial institutions.[446] Such a program was in fact undertaken by the Canadian government, though on an ad-hoc basis, through the Insured Mortgage Purchase Program.[447]

Since all troubled securities would presumably not already be guaranteed by the government, formalizing such an institution on a permanent basis would be unlikely to be cost-neutral. However, mitigating the severity of market panics – where investors act irrationally to the detriment of all – would offset instances where the purchase of troubled assets proved unprofitable to the liquidity-providing institution through the benefits of longer-term market stability. This would help mitigate the moral hazard implicit in relying on a lender of last resort, which encourages higher risk-taking and incurs substantial public losses if firms receiving emergency support fail regardless. A market liquidity-provider of last resort, however, "can profitably invest in securities at a deep discount from the market price and still provide a floor to how low the market will drop."[448] Such a framework would also provide the benefit of acting on a market-wide

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[443] MacNeil, "The Trajectory of Regulatory Reform in the UK," 500.
[444] MacNeil, "The Trajectory of Regulatory Reform in the UK," 526.
[445] Schwarcz, "Understanding the Subprime Financial Crisis," 70.
[446] Schwarcz, "Understanding the Subprime Financial Crisis," 72.
[447] See the section on "Bailouts" in the Canadian case study in this paper.
[448] Schwarcz, "Understanding the Subprime Financial Crisis," 72.

level, rather than focusing on rescuing successive firms as a chain reaction of institutional defaults unfolds.[449]

8.4 Conclusions for Canada

Canada has taken a much more statist, Keynesian approach to macro-economic policy than the other cases in this paper. The Canadian government reduced deficits and paid down debt during the growth years of the early 2000's, and was thus in a much better position to undertake monetary and fiscal stimulus when the crisis struck. Iceland ran a substantial surplus from 2004 to 2007, and was also on a debt-reduction path. However this was only possible due to the titanic financial bubble driving Iceland's economy, with the crisis quickly driving deficits to over 10% of GDP and total debt back over 100%.[450] Canada thus combined countercyclical economic policy with a more state-centred approach to policy response. An example of this is the comparison between American and Canadian quantitative easing.

Under TARP, the US government acquired huge amounts of toxic assets, while Canada's IMPP added risk-free (or at least no added-risk), government guaranteed MBS's to balance sheets at CMHC. American taxpayers bought banks' least valuable assets, while Canadian banks received liquidity in exchange for only their least risky assets. However, the cost of supporting demand through debt has resulted in strained financial conditions for Canadian households and firms. Debt-to-income ratios in Canada are higher than in the now-deleveraged US and UK.[451] Federal debt is still highly marketable as evidenced

[449] Schwarcz, "Understanding the Subprime Financial Crisis," 73.

by Canadian bond yields.[452] However, total government debt is now over 80% of GDP if provincial and intra-governmental debt is taken into account.[453]

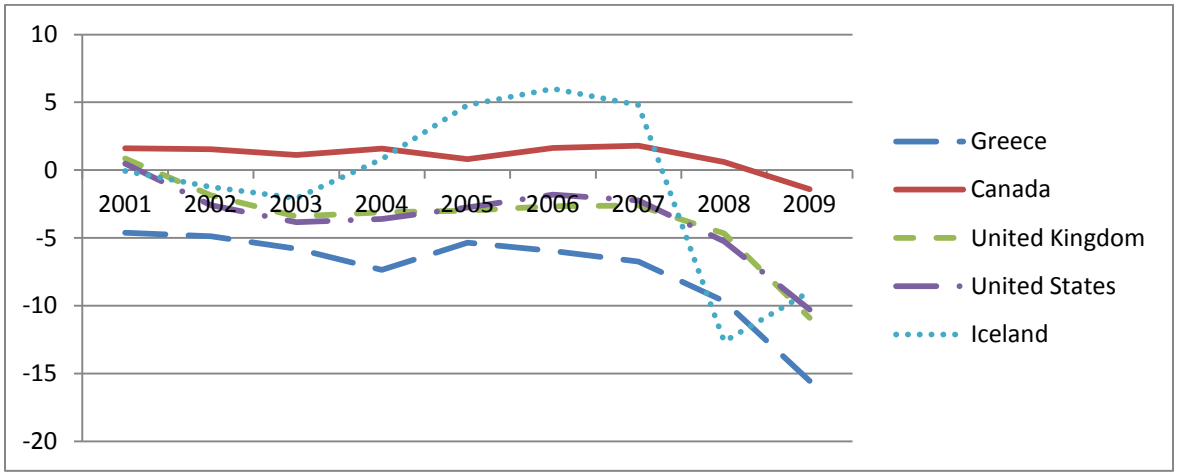

Figure 3 Net Surplus/Deficit (%GDP)

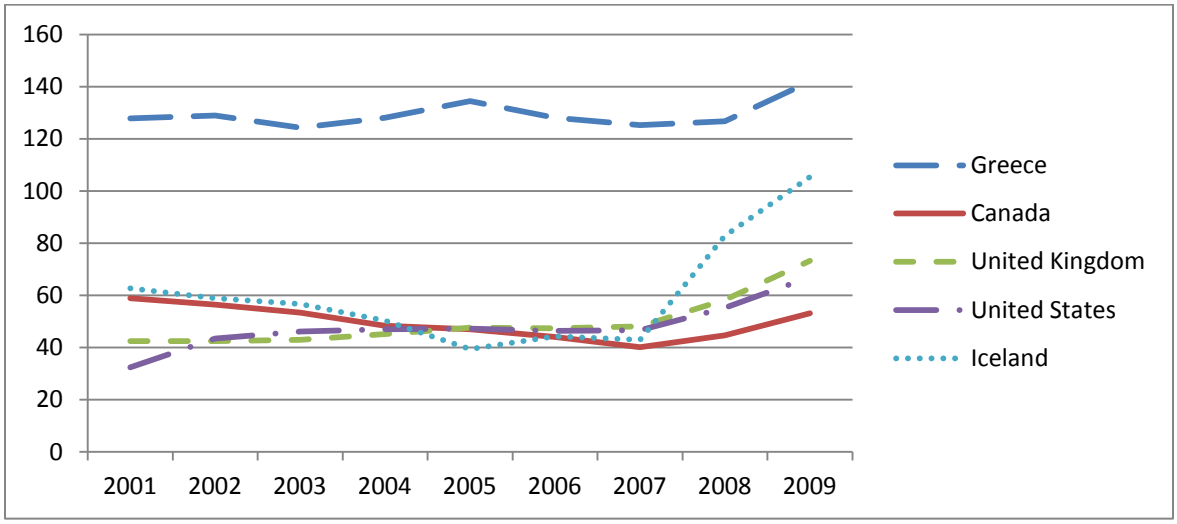

Figure 4 Central Government Debt (%GDP)

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[450] World Databank.
[451] Bank of Canada, "Financial System Review," 24.
[452] Bank of Canada, "Selected Bond Yields," last modified July 6, 2012, accessed July 8, 2012, http://www.bankofcanada.ca/rates/interest-rates/canadian-bonds/.
[453] CIA World Factbook, "Canada."

Canadian household finances, especially mortgage and other debt servicing, are now highly vulnerable to fluctuations in the labour and housing markets.[454] The stability of financial firms is dependent upon the ability to repay of the businesses and households they lend to, and so Canada's entire financial system is thus now much more exposed to exogenous shocks than it was pre-crisis. Canada's sound position going into the crisis and its concerted policy response helped avoid a domestic financial crisis by addressing the liquidity shortage and, crucially, by reassuring investor confidence in the solvency of Canadian banks. This in turn has helped mitigate domestic spillovers from the global economic downturn. However, global economic recovery remains impeded by the European sovereign debt crisis, American deficit fears, and the slowdown of growth and continued savings and exchange rate imbalances in Asia's emerging economies.[455]

No single national economy can completely shield itself from global macroeconomic fluctuations, and Canada's financial buffer has been largely depleted by the recent crisis. The context for national economic governance and policymaking is now global. The last three decades of economic and financial integration mean that shocks, especially in the centres of economic and financial gravity in the US and Europe, have spillover effects for the entire world and can be self-reinforcing.[456] Such crises are also procyclical, reinforcing their own effects when originating in systemically important financial institutions in the US and Europe.

Canada's case shows that effective governance and prevention are the only true remedies for softening economic shocks, supporting a Keynesian policy paradigm in the sense that the state must intervene to reduce the amplitude of the economic cycle to a socially acceptable and sustainable level. The American, British, Greek, and Icelandic cases do not represent the failure of neoliberal approaches, however, as they entailed deficit

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[454] For example, the Bank of Canada estimates that mortgage arrears would roughly double in response to a hypothetical labour market shock comparable to that experienced during the recession of the early 1990's. Bank of Canada, "Financial System Review," 26-28.
[455] Bank of Canada, "Financial System Review," 24.
[456] Jean Imbs, "The First Global Recession in Decades," *IMF Economic Review* 58 no. 2 (2010): 351-53.

spending both in times of growth and recession. Neither Keynesian nor neoliberal models advocate the type of moral hazard and unrestrained risk-taking exhibited by the four non-Canadian case studies in this paper. However, financial and economic globalisation involves institutions which by their very scale and systemic importance are too big to fail, requiring government regulation and subsequently, as has been shown, coordination of such regulation at the international level. Basel III is an example of the attempt at global harmonization of liquidity risk management practices, and provides new metrics for regulators to monitor and stress-test financial institutions.[457]

Financial globalisation and innovation have created forms of systemic risk which are structural rather than cyclical. Thus, neither a Keynesian nor neoclassical approach to the business cycle as such is in question regarding financial governance, although Canada certainly benefitted from following a more countercyclical macroeconomic platform. Rather it is the paradigmatic difference between interventionist versus laissez-fair oversight of the financial industry which is the key variable here. For decades the American government has subsidized housing as a democratically popular public good. However the lack of transparency in funding this provision – and extension to the private sector of similarly opaque funding privildeges – metastasized into system-wide underestimation of risk. This was transmitted worldwide through financial and economic globalization. The greater the degree of transparency and oversight in governance, the less opaque and imbalanced are institutional finances allowed to become. This holds true whether the institution in question is an investment bank, a government-sponsored enterprise, or a national government – hidden and unmanageable debt sooner or later results in a re-evaluation of default risk when it is revealed. The greater is the discrepancy between the institution's accounting claims and reality, the sharper the correction and the greater the resulting dislocation.

The size, systemic importance, interconnectedness, and sheer profligacy of financial institutions (and national governments) led to the recent financial and economic crisis occurring on a global scale. As authority for global governance, emergent in such bodies

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[457] Bank of Canada, "Financial System Review," 35.

as the Financial Stability Board, is at an as-yet nascent stage, the meantime will require close international coordination of financial and macro-prudential governance at the national level. It is absolutely critical that transparency and accountability allow the accurate appraisal of risk in global finance. The financial globalization arising from three decades of neoliberal barrier-removal has thus ironically renewed the role of the state in managing the most volatile sectors of the economy.[458]

Left completely free of state intervention, markets might indeed conform to the rational choice models presented by efficient market theorists. However, the abstention of government from interfering when economic shocks generate massive social dislocations is politically infeasible. Moreover, markets do not exist independently as discrete systems, being preyed upon and interfered with by state interlocutors. Markets exist because of and within the legal frameworks established over time by states themselves. Indeed, it has been argued that rational-choice market expectations came to the fore after the 1980's because of the stability engendered by decades of Keynesian economic management.[459] Investment banking can increase profitability and better distribute risk, as can securitization. However just as unregulated investment banking resulted in the 1929 crash and Great Depression, so too has unregulated securitization resulted in financial and economic crisis in this century.

This paper has shown that regulation promoting risk transparency is crucial in avoiding the buildup of systemic risk which threatens financial stability, and by extension the economic and social systems which have come to depend upon it. Countercyclical policies in financial and economic governance are also crucial in mitigating the effects of market corrections should such risk develop. This applies both to the prevention of economic bubbles as well as the response to their collapse. The lesson is not that securitization is bad, but that it must be regulated at the national level, and coordinated by national agencies at the international level, if its benefits are not to be outweighed by the economic and social costs of unsustainable bubbles, booms and busts.

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[458] Jacobus Delwaide, "The Return of the State?" *European Review* 19 no. 1 (2011): 79.
[459] Mullard, "Explanations of the Financial Meltdown and the Present Recession," 216.

Glossary of Terms

Asset-backed Security (ABS): A security whose value and payments are derived by a pool of underlying assets. These assets are typically illiquid and difficult to sell individually, so are collateralized into ABS to generate income.

Collateralized Debt Obligation (CDO): A type of asset-backed security which derives value and payments from underlying fixed-income assets, such as mortgages or bonds.

Credit Default Swap (CDS): A contract or agreement whereby the protection buyer makes a series of payments to the seller, in exchange for a payoff in case of default of a credit instrument (such as a bond or loan).

Financial Governance: The act of governing finance at the national and international levels, relating to decisions that define expectations, grant power, and verify performance regarding the management, policies, guidance, and decision-rights of public and private stakeholders in the financial sector.

Fiscal Policy: The use of government revenue collection (taxation and borrowing) expenditure to influence aggregate demand, resource allocation, and income distribution.

Fiscal Stimulus: The process of increasing government spending and decreasing tax rates to increase aggregate demand. Keynesian theory prescribes fiscal stimulus during times of recession in order to achieve price stability, reduce unemployment, and encourage economic growth.

Monetary Policy: the process of controlling the money supply, through open market operations and discount window lending, by the national monetary authority. Monetary policy typically aims to maintain stable interest and inflation rates, with the long-term goal of price stability. 'Expansionary' monetary policy refers to increasing the money supply with the aim of reducing the cost of borrowing and stimulating investment. 'Contractionary' monetary policy refers to reducing the money supply, with the aim of increasing the cost of borrowing and curbing inflation.

Monetary Stimulus: The process of increasing the money supply to reduce the cost of credit and stimulate investment and economic growth.

Mortgage-backed security (MBS): An asset-backed security representing a claim on interest payments from securitized mortgage loans.

Securities: Financial assets yielding interest or dividends, such as shares or bonds.

Securitization: the pooling of contractual debt obligations to be sold to investors in exchange for regular interest payments deriving from the underlying debts' repayment.

Structured Investment Vehicle (SIV): A legal entity operating as a finance company for the purpose of issuing short-term securities at low interest rates and buying longer-term securities at higher interest, in order to generate a profit to be passed on to investors.

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